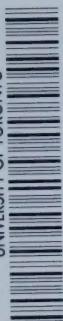


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JOURNAL

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OPINION 5

A Toronto area dentist believes there is a 'wastage of dental talent' in Canada, rather than an over supply of dentists.

NEWS UPDATE 6

CDA secures tariff regulation changes for dental materials.

Yukon Dental Association holds its annual convention.

Dr. Robert N. Hicks reports on the 1985 FDI World Congress in Belgrade, Yugoslavia.

Ontario sets up cleft palate dental care assistance program.

Dr. Nick Mancini named chairman of CDSPI.

BRIEFLY 14

Dental news items from across Canada and around the world.

CDA RESOURCE CENTRE 19

BOOK REVIEWS 21

CONTINUING EDUCATION 23

ARTICLES 33

(FROM CDA'S NATIONAL MANPOWER SYMPOSIUM)

SUPPLY AND DEMAND 33

Dr. Donald Lewis

DENTIST UNEMPLOYMENT 45

Dr. Rodney Moore

MANPOWER: AN FDI/WHO VIEWPOINT 52

Dr. George Beagrie

POSSIBLE SOLUTIONS 59

Dr. John Silver

ATLANTIC PERSPECTIVE 64

Mr. Don Pamenter

ACADEMIC VIEWPOINT 66

Dr. Arthur Schwartz

THE ROLE OF GOVERNMENT 68

Dr. William Bedford

CDHA PRESENTATION 69

Mrs. Pat Johnson

SCIENTIFIC 71

PROPHYLACTIC ANTIBIOTIC COVERAGE AND THE CARDIAC PATIENT. HOW TO IDENTIFY THE 'AT RISK' PATIENT 71

Dr. Catherine Kilmartin, Dr. Charles Munroe

INTRA-ORAL PLEOMORPHIC ADENOMA: REPORT OF A CASE PRESENTING IN AN UNUSUAL LOCATION 75

Dr. Dale Miles et al

THE DENTAL MANAGEMENT OF THE CARDIAC PATIENT REQUIRING ANTIBIOTIC PROPHYLAXIS 77

Dr. Catherine Kilmartin, Dr. Charles Munroe

MÉDECINE DENTAIRE ET GÉRODONTOLOGIE 83

Dr. Roland Vallée et al

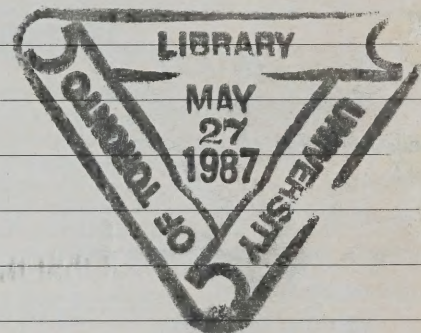
CDA RSP 12

OBITUARIES 20

ANNOUNCEMENTS 88

MARKETPLACE 91

ADVERTISERS' INDEX 92



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A 'WASTAGE' OF DENTAL TALENT

An over-supply of dentists — most definitely not! A wastage of dental talent — most definitely yes!

I have been in Dentistry now for over thirty years and the longer I practise the more disturbed I become about its future, more especially in the past five years or so, when the profession has been faced with greater problems than in my recollection, it ever has.

And how have we faced up to those problems? — not very well if you look at the position we have placed ourselves in — fewer graduates, less money for research, fragmentation into too many specialities, division into groups one of whom considers store front dentistry unethical and store front groups who probably consider the first group fuddy-duddies.

I have made a particular point of asking numbers of dentists whom I meet casually at conventions, courses and dental meetings over the past five years, "What do you see for Dentistry in the year 2000?" In the main I get some vague answers about better anterior filling materials, tooth coloured filling material for posteriors with all the advantages of an amalgam and none of the problems — better this and better that . . . the better usually qualifying some or other technological advancement.

Do we really spend so much time looking down in the mouth that we forget to raise our eyes and look ahead? Where are the men of vision in our profession? The only increase in vision I can discern is an increase in what I would call 'tunnel' vision — more concentration inwards and rarely upwards, outwards and forwards.

Who is to blame? You, and yes, me. We are probably the most conservative group of people amongst all of the professions. We spend years of study to attain a certain pinnacle of knowledge and then spend a very great deal of our time carrying out technical skills for which in many cases an eighteen year old could be trained.

How long would it take you to train an eighteen-year-old assistant to take impressions for study models? — about a week probably. How long would it take you to teach your hygienist to plug and carve a Class 1. amalgam? — a little longer perhaps, but not that much longer. Did you know that in Ontario now the assistant is allowed to hold the curing light for a composite? That is the kind of momentous pronouncement we have forced our licensing body to make by our own ludicrous attitude towards such things and let's face it, we are, in reality, our own licensing body.

Can't I just hear the cries now? "You can't let them do this!" "You can't let them do that!" "It is the thin edge of the wedge." "Give them an inch and they'll take a mile." Believe me, we are the thin edge of the wedge and some of us are wedged in so tightly that many of us will never pull free.

Every time I hear someone say, "I can't afford a hygienist and pay her all that money. I'm not very busy and I have to do all that kind of work myself or I would go broke," I think to myself, 'better you go broke, my friend, than adopt an attitude like that, because you are wasting all that time, all that talent, and all that training.' There is work out there we will never even get to touch. The field of nutrition alone offers unlimited possibilities and has been sadly neglected by the medical profession. At any rate as all of it goes through the mouth why should it not be as much our responsibility as theirs?

"Aha", you say, "I don't spend much time on that sort of thing — nobody is prepared to pay for nutritional counselling — very few people and certainly not the insurance companies. To such people I would say, 'That is just the kind of attitude that has brought us to where we are today'. We have to do one thing and we have very little time to do it. We have to change our image and so sell a whole new bill of goods. We are in the exact position the Chrysler motor company found itself in a few years ago. It had two alternatives — continue the old style of product and sales routine and continue losing millions more or change their image and recover lost ground. Would that we had some Iacoccas in our midst!

Thanks to research the problem of caries is practically one of the past.

Now those same energies are being concentrated on periodontal considerations and I venture to suggest if the same amount of effort is put into periodontal research over the next thirty years as has been put into caries research then in that period of time this problem will also be licked.

In this vein, to quote from an article by Dr. John Hein (Director of the Forsyth Dental Centre, Boston): 'We must conclude that the dental profession can no way survive with a primary orientation towards periodontal disease than with a primary orientation towards caries. . . . many of the sciences at the forefront of dental research do not fit neatly into dental school curricula. eg. — research into immunology, physical chemistry, molecular genetics, bio-engineering, molecular biology, sociology, epidemiology, organic and inorganic chemistry hold promise of discoveries that may alter profoundly the treatment and prevention of periodontal disease.'

His suggestion to remedy the present situation would consist of three steps:

1. Educate dentists to meet the future challenges of practice rather than those of the past.
2. Conduct licensure exams that test the skills that will be useful in the future, rather than those that have been useful in the past.
3. Do everything possible to broaden dentistry's focus so that the profession can adapt better to changes that research will initiate.

What worries me in particular at this time is that the Canadian Dental Association has embarked on an ambitious and reasonably costly program which concentrates, to my mind, too fully on changing the public's attitude and not nearly enough on changing the attitude of the profession. We are the ones who must change our style of thinking. It is a whole new ball game, brought about by social and economic pressures which didn't even exist when I began to practise. Let's be like the Chrysler people — let's have a new image and the product will sell itself.

Now, some food for thought. How many potential dental students are convinced that there is a surplus of dentists? In the U.S. the number of applicants has actually declined and according to authoritative sources the quality of applicants has also decreased. In some cases in the U.S. universities where energies were previously used for teaching and research they have now directed those energies towards income-generating activities for the survival of the institution. It can therefore be asked quite legitimately — is this the function of a teaching university or a trade school?

Do some really believe as I have heard said on many occasions over the past five years in particular, that we are supporting future competitors, in what are hard times, for ourselves? Our present abandonment in many cases of our schools in their time of need will result only in poorly trained dentists and this is already becoming evident, (not poorly trained but inadequately — not inadequately in the sense of insufficiently but inadequately in an inability to cope with changing needs).

Public confidence must inevitably suffer. If we do not take action ourselves then those with differing interests will determine our future. This is particularly critical at a time when educational support has little popular appeal and is before the public politically. I hope that parts of this opinion will offend some of you — because some of you are wasting a great deal of your time — simply by not making use of your full potential — and because you might get angry enough to at least think about your profession's past, its present and its future.

The possibilities for change at this time are enormous. The prospects are both exciting and exhilarating, but only if we make them so, and because we should ever bear in mind the admonition of Santayana: "Those who cannot remember the past are condemned to repeat it."

Dr. M.J. Richards
Agincourt, Ont.

News Update

CDA SECURES CHANGE IN REGULATIONS DEFINING DENTAL MATERIALS AS IMPLANTS

One of the ways in which the Canadian Dental Association serves its membership is through effective liaison with government on issues of concern to dentists. Over the past year, CDA's Council on Dental Materials, chaired by Dr. Ralph Barolet, became very concerned about the fact that dental restorative materials, because of a change in federal regulations, were going to be subject to the same National Health and Welfare verification process as implants. The Council recognized that one consequence of the new requirement would be diminished choice of restorative materials in Canada because many small manufacturers would be unable to justify the additional expense for the small Canadian market.

A detailed brief was prepared and submitted to the Minister of Health, the

Honourable Jake Epp. On behalf of CDA, Dr. Ralph Barolet subsequently spoke to the brief at the meeting of a committee established at the Minister's request. The results of the interaction may be seen in Information Letter 696 reprinted below.

I.L. No. 696

TO: Manufacturers and
Distributors of Dental Devices

SUBJECT: Dental Implants

The Medical Devices Regulations were amended, effective April 1, 1983, to require premarket review of all devices designed to be implanted into the tissue or body cavities of a person for 30 days or more.

Representations have been received from the dental industry seeking clarification of the status of certain dental restorative materials insofar as premarket review is concerned. As a result of discussions with representatives of the Canadian Dental Association, the Dental Industry Association of Canada, and

the Canadian Association of Manufacturers of Medical Devices, it has been decided that dental materials defined as those devices attached only to non-vascularized tissue of the oral cavity and having no direct access to systemic or lymphatic circulatory systems will not be treated as implants.

The Canadian Dental Association is maintaining communication with Health and Welfare with respect to regulations and verification processes related to Dental Implants which continue to fall under the Medical Devices Regulations. Dr. Phil Watson of the University of Toronto is representing the CDA on the appropriate National Health and Welfare Committee. The Canadian Dental Association appreciates the co-operation of the Assistant Deputy Minister Dr. A.J. Liston, Dr. A. DasGupta, Director, Bureau of Medical Devices and their colleagues at National Health and Welfare in maintaining open and productive communications with the Dental Profession.

COVER STORY: YUKON DENTAL ASSOCIATION HOLDS ANNUAL CONVENTION

As can be seen from the Journal's front cover this month, the annual convention and continuing education seminars of the Yukon Dental Association held this past summer, were well attended and as unusual as ever.

The cover photo shows (L-R) Guide: Hector MacKenzie, Dr. Geof Collier, Dr. Claude Page, Dr. Dan Conny, Vivi-Ann Mitchell, Dr. Melanie Wood, Dr. Hugh Jack, Dr. Ellwood Mitchell, Dr. Peter Neilson, Dr. Wayne Beck and Dr. Mike Moseley near the summit of Amphitheatre Mountain, Kluane Park, in the Yukon. The photographer was Dr. John Stern, a Whitehorse dentist.

The 1985 Yukon Dental Convention was held June 22-29, 1985. Continuing education sessions were held June 22-23. Speakers were Dr. Sheldon Newman of the University of Alberta, who lectured on dental materials and Dr. Dan Conny from the University of New York (Buffalo) who spoke on crown and bridge.

June 24 a group of intrepid participants set off on a six-day hike in the Burwash Uplands area of Kluane National Park. A base-camp was set up from which day-long hikes were taken.

"As well as scenery, the region abounds in game and our group saw sheep, fox, mountain caribou and a grizzly bear at an uncomfortably close range," Dr. Stern told the Journal.

"The weather was ideal for hiking, cool but sunny, and we all returned with good tans. We did, however, have one day when it snowed," said Dr. Stern.

Nine convention participants took part in the hike and Dr. Stern told the Journal that

the 1986 convention will feature a canoe trip, instead of a hike.

"We expect to be offering a canoe trip of about a week's length, as part of our continuing education package next summer," he said.

For more information about the Yukon Dental Association and their activities, contact Dr. John Stern at the Klondyke Dental Clinic, #4-3089 3rd Avenue, Whitehorse, Yukon, Y1A 5B3, 403-668-3152.



A much needed break is taken in the Burwash Uplands of Kluane National Park, by Yukon Dental Association convention participants (Top to Bottom) Dr. Melanie Wood, Dr. Dan Conny, Dr. Geof Collier, Dr. Wayne Beck, Vivi-Ann Mitchell and Dr. Ellwood Mitchell. Photo by Dr. John Stern.

REPORT FROM THE 1985 WORLD CONGRESS BELGRADE, YUGOSLAVIA

Dr. Robert N. Hicks
FDI National Treasurer —
Canada

The 73rd Annual FDI World Congress was held on September 21-27 in Belgrade, Yugoslavia at the junction of the Danube and Sava Rivers. The World Congress is held each year for the benefit of individual FDI members and includes an extensive and varied scientific program, provided by renowned clinicians, scientists and teachers. The broad scope of topics presented provided those who attended a unique exposure to international expertise on many clinical aspects of dental practice.

In conjunction with the World Congress, the 75 member nations of the FDI meet on a formal basis as the General Assembly. The General Assembly is the legislative body of the FDI which convenes annually to decide on the Federation's program and budget and to make policy decisions regarding various problems of international scope confronting the profession. Dr. Bradley Holmes — CDA President, and Dr. Robert Hicks — FDI National Treasurer: Canada, represented Canada at this international forum. Brig Gen James Wright represented Canada in the military section of FDI. Dr. Bill Thompson — a CDA Past-president is an elected member of the Council of FDI.

Alternate delegates for Canada were Brig Gen James Wright and Dr. Ralph Crawford CDA's immediate past-President. Dr. Wright represented Canada in the military section of the FDI. Dr. George Beagrie, Dean of the Faculty of Dentistry, University of British Columbia was also in attendance and is currently Chairman of the FDI Commission on Dental Education and Practice.

Each year, Canadian dentists form a major part of the foreign registrants at this international meeting. This year Canada ranked third highest in a total attendance of 1600 foreign dentists.

Yugoslavia proved to be a warm and welcoming country to those who attended this year's meeting. The alpine areas and the Adriatic coast provided spectacular scenery and beauty to those participants who took advantage of the travel opportunities before and after the Congress. Goods to be purchased — leather, crystal, handicrafts etc — were far below Canadian prices while the Yugoslavian white wines were unanimously classified as excellent! The country has a varied history which included occupation by a number of nations. The history left behind many ruins, monasteries, churches, fortresses, etc, which added to the cultural knowledge of those who visited these national treasures.

The working and educational aspects of the FDI meeting are blended together such that activity took place from September 16 through to September 25. The four working groups of the FDI are called Commissions with 20 working groups within them that tackle different problems confronting our profession. They work in the following main fields:

1. Oral Health, Research and Epidemiology:

— this commission gives priority attention to dental caries, periodontal disease, occlusal anomalies and the promotion of oral health.

2. Education and Practice:

— this commission studies dental curricula, teaching methods and the regulation of dental practice.

3. Dental Products:

— this group works in the field of dental materials, instruments and equipment and has been very successful in obtaining international standards.

4. Military Dentistry:

— this commission organizes a Military Conference each year to discuss topics such as standardization of military dental records and oral health care for military personnel.

From these Commissions, open sessions were provided for those attending the FDI World Congress on the following topics:

- Dental Manpower
- Biocompatibility of Metals in Dentistry
- Periodontal Health and Disease in Young People
- Management and Organization of Group Practice
- Equipment for the Provision of Dental Services in Remote Areas.

In the main scientific program, half-day presentations were provided on such topics as:

- Multidisciplinary Approach to Periodontal Therapy
- Emergency in Risk Patients in Dental Practice
- Care of Adolescents with Congenital Cleft Lips and Palates. Many other topics were presented in one-hour lectures.

From the business side of the General Assembly meetings, a number of important items were resolved. A document entitled "FDI Policy Document on Lowering Barriers to Oral Health Care" was adopted. It is anticipated that this document will be useful to member nations in their efforts to improve access to dental care in their countries. A further document entitled "FDI Code of Ethics" was completed and should also be helpful in standardizing ethical codes internationally. "Recommendations for Hygiene in Dental Practices" was also discussed with the intent of, once again, estab-



Taking a breather between FDI sessions in Belgrade were, (left to right): Dr. Robert N. Hicks, past president of CDA and FDI National Treasurer, Canada; Dr. Roger Hall, of the University of Melbourne, Australia, a presenter at the FDI who also lectured at the CDA Convention in Ottawa, and the Immediate Past-president of the CDA, Dr. Ralph Crawford.



Three prominent members of the Canadian delegation at meetings of the FDI in Belgrade, Yugoslavia are, from the left: Brig Gen J.N. Wright, CDA President; Dr. Bradley W. Holmes and CDA Past-president and FDI National Treasurer, Canada, Dr. Robert N. Hicks.

lishing recognized standards in this area of practice.

With all of the activity taking place, probably the most significant session for Canada was the open session on "Dental Manpower." Your Canadian delegates attended this session and in fact CDA President Dr. Brad Holmes presented Canadian facts and issues at the meeting. While CDA has made positive steps to study and make recommendations on the dental manpower problem in Canada, it was most interesting to listen to representatives from other nations describe their serious manpower problems. Canadian delegates heard of 200 unemployed dentists annually in some European countries. Situations of total dental school closures and other situations of dental class size reductions were discussed. This unique opportunity provided useful background knowledge for us to bring back to our own studies on dental manpower.

This report is only meant to highlight the main activities of this year's World Dental Congress. If there are areas of special interest please feel free to write to the FDI National Treasurer c/o CDA Headquarters 1815 Alta Vista Dr., Ottawa, Ontario, K1G 3Y6 for further information.

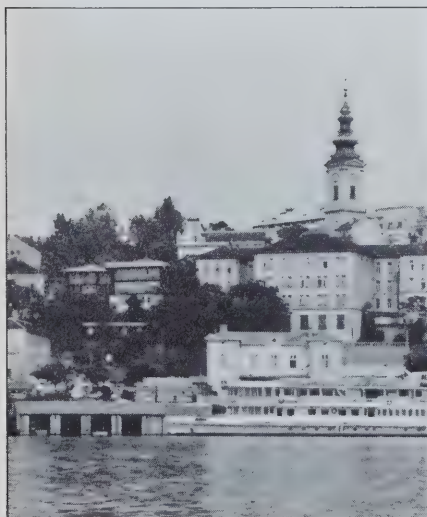
Next year's, FDI World Dental Congress will take place in Manila, the Philippines, on November 9-15, 1986. Future FDI Dental Congresses are as follows:

1987: Buenos Aires, Argentina:
Oct. 24-30.

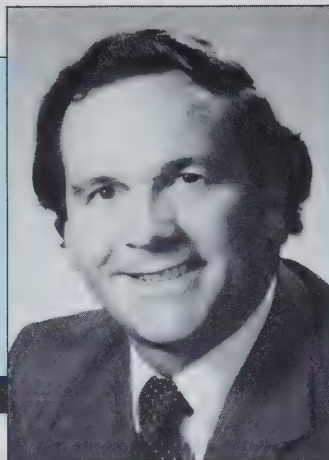
1988: Washington, D.C., U.S.A.:
October.

1989: Amsterdam, Netherlands:
September.

At the recent CDA Board of Governors meeting, a decision was made to extend an invitation to the FDI to hold its World Dental Congress in Vancouver, B.C. in 1993. It is anticipated that our invitation will be voted upon at the Manila meeting in 1986.



Old Belgrade seen from New Belgrade



PRESIDENT'S COLUMN

Dr. Brad Holmes

MANPOWER

Probably the most talked about and worried about topic in the profession today is Manpower — the busyness factor. As a result of many expressed concerns from all areas of dentistry, including provincial associations, licensing bodies and dental schools, the Canadian Dental Association decided to develop a Manpower Symposium. This Symposium was held in Toronto October 18-19, 1985.

In terms of numbers the Symposium was not well attended. However, as we all know, it is not the number of fans in the bleachers but rather the players on the field that affect the score. The players in this game performed admirably. Presentations were made by many Canadian authorities, as well as several international speakers. Drs. Ron House and Don Lewis spoke on the economics and statistics of dental manpower from a Canadian perspective. We heard about dentist unemployment in Sweden and Denmark from Dr. Rod Moore, an American dentist who has studied the dentist employment situation in Scandinavia for several years. He also told of growing problems with the numbers of dentists in the United States. The manpower situation in Great Britain was addressed by Dr. Derek Chisholm. In all, 17 presenters and panellists took part in the Symposium, ably chaired by Dr. Ian Vogan of Halifax. Most of the presentations are in this issue of the Journal.

After two days of deliberations, it was evident that a consensus was reached. It was obvious to all present that Canada too has a manpower problem. To be sure, it is not as acute as in some places, but the problem is present in our country, in varying degrees. The natural question is: "What will the profession do about the situation?"

At the end of the Conference, the Canadian Dental Association was charged with the responsibility for striking a committee to develop solutions to the manpower problem in Canada. This committee has the task of coming forward with a preliminary plan in time for presentation at the Interim Board meeting in April — a heavy challenge. As chairman of that committee, I will be reporting to you in the future.

When asked "what is CDA doing about the manpower problem", I will frequently turn the question around and ask "what are *you* doing about the manpower problem?" This is a problem that does not belong exclusively to organized dentistry. We all share the burden. If the excess of manpower creates a lack of busyness, what are we doing as individuals to improve our own busyness as we improve the nation's dental health?

John Gillies, the Executive Director of the Ontario Dental Association, speaking at the recent symposium, challenged us to look inwardly. Are we taking the time to communicate with our patients to make them aware of their dental needs? Are we advising them of the variety of treatment modalities that are available to them? Are we helping to make payment for our services as easy as possible? I am sure that we are all guilty of poor communication some of the time.

Canadians are willing to purchase a higher quality of dental care than ever before, but they must be assured that they are getting proper value for their consumer dollar. We must take the time to assure our patients that they can indeed help keep their teeth "good for life."

Dentists must also take the time to make their views known to the provincial and national associations and be willing to take part in committees and groups to study the manpower problem. The brainpower of our profession is, as the kids say, "awesome." Lets put it to use so that in a few years we can say that manpower is one more problem we tackled and solved.

ONTARIO'S CLEFT PALATE DENTAL CARE PROGRAM IS NOW IN PLACE

Parents of children afflicted with cleft lip or palate are hailing the Ontario Health Ministry's action in establishing a program to fund up to 75 per cent of the costs of specialized dental treatment to correct these anomalies.

The program became effective on January 1.

While other related medical and surgical procedures involved in the treatment programs have been covered for several years under the Ontario Hospital Insurance Plan (OHIP), dental aspects have not been.

The new program covers all other craniofacial anomalies in addition to cleft lip and palate.

Must be under 21

To be eligible for the assistance, patients must be under 21, register at a designated clinic of their choice and attend a multidisciplinary assessment program.

The specialized dental services include consultations, prosthetics, orthodontics, dental orthopedics, feeding therapy supervision and preventive endodontic and periodontic treatment and restorative services.

The Ministry is funding the program through hospital clinics in Toronto, Ottawa, London, Timmins, Sault Ste. Marie, Thunder Bay, Sudbury and North Bay. The northern clinics, the Ministry noted, will be operated in association with one of two specialized clinics located in Toronto.

Parents with children requiring treatment who have moved to Ontario from other provinces in recent years were shocked to find no coverage in the province, and they were forced to seek funding to pay for treatment.

Service clubs assisted

Dr. A.F. Dungy, Chief of Dentistry at the Children's Hospital of Eastern Ontario in Ottawa said "we have struggled for many years, but service clubs have stepped in with programs of aid. They have given such matters a high profile in their community service programs."

Several other hospital clinics in Ontario have been providing dental care at cost to children with cleft lip or palate. However, even on this basis, the expense was quite a burden for the families.

Multi-disciplinary

The new program promotes the multi-disciplinary approach, the Ministry stated recently. "This has proved to be the most effective method of care and treatment. This coordinated approach will be used until treatment is completed in most cases, by the

time the youngster reaches 21. For some, however, treatment may be continued beyond this age."

Dr. Dungy did not foresee any great backlog of patients because of the new legislation, because many have already been identified and have been coming for treatment for some time. Also the incidence of the anomaly is predictable.

Drafted proposal in 1978

The Cranial Facial Family Association and the Canadian Cleft Lip and Palate Family Association had been lobbying for some time for financial support.

Dr. Dungy, who is also the President-elect of the Canadian Academy of Paedodontics and Dr. R. Bruce Ross, President of the Canadian Craniofacial Society and head of the orthodontics and facial anomalies department of the Hospital for Sick Children in Toronto, offered their expertise in drafting a proposal to the Ontario health minister in 1978.

The Minister gave approval in principle and felt the program should be implemented "as soon as funding became available." The matter was then passed to the provincial treasurer and other agencies, to work out the funding and logistics.

The matter "got back on the rails in the late spring (of 1985) and things began to move more quickly" Dr. Ross explained.

Affects 3,800

The Minister stated that approximately 3,800 young people in Ontario are affected by either cleft lip or palate, or both, and about 165 infants are born each year with the disorders.

The Ministry expects that program will cost the province about \$2 million annually.

CDA ACTIVITIES ADDRESS OCCUPATIONAL HEALTH HAZARDS IN DENTISTRY

Dr. Patrick Blahut

There is an increasing awareness of environmental hazards in the health professions. The Canadian Dental Association has planned a number of activities addressing the environmental or occupational health hazards of dentistry. Three activities are highlighted in this update: (1) a health screening examination provided at no charge to dentists who attended the 1985 CDA convention; (2) a nationwide survey of practitioners; and (3) a symposium during the 1986 CDA convention addressing (a) the data collected through the nationwide survey and health screening examinations, and (b) those potential health hazards identified in the survey as of most interest to practitioners.

(1) Health Screening Examinations

A free health screening examination was provided to interested dentists attending the 1985 CDA national convention. This service was supported by the Canadian Fund for Dental Education, Canadian Dental Service Plans, Inc., and the private firm Merck-Frosst. Volunteers were assessed by physicians with regard to height, weight, blood pressure, and general fitness. Dentists also contributed small samples of urine, blood, hair, and fingernails, which were subject to a number of analyses, including an assessment of mercury concentration. Confidential reports addressing findings from the physical examination, blood studies, and analysis of hair and nails, will be mailed to all participating dentists.

(2) Nationwide Survey

The second phase of this project is a national survey of dentists concerning occupational health hazards. A small random sample of dentists will receive a survey questionnaire enclosed with a future issue of the Journal. If your name is chosen and you receive a questionnaire, it is very important that you complete and return it as requested. Only a small random sample is utilized, and every return is important.

(3) 1986 CDA Convention Symposium

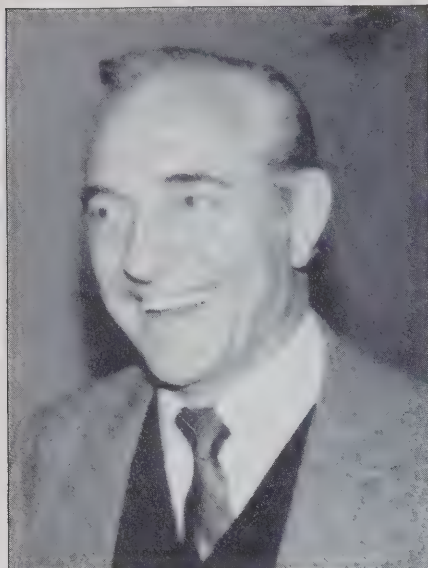
The third phase of this project is a national symposium on occupational health hazards in dentistry, to be held in conjunction with the September, 1986 CDA convention. Results of the national survey and a summary of findings from the screening examinations will be presented. In addition, noted experts will present latest information concerning specific occupational health hazards identified by dentists participating in the national survey. Thus, the symposium will centre upon those potential hazards Canadian practitioners perceive as important.

Dr. Blahut, of the Department of Community Health and Preventive Dentistry, Baylor College of Dentistry, Dallas Texas is serving as chairman of CDA's ad hoc committee on health screening.

DR. NICK MANCINI NEW CHAIRMAN OF CDSPI BOARD

Dr. Nick Mancini, the colourful long-time chairman of both CDA's and ODA's Boards of Governors, has been named Chairman of the Board for the Canadian Dental Service Plans Inc. (CDSPI).

"I was approached by CDSPI following a decision to try having their Board meetings led by a chairman and I agreed to take the job on for a year," Dr. Mancini told the Journal.



Dr. Nick Mancini

Dr. Mancini, who practices dentistry in Hamilton, Ontario, has been Chairman of the CDA Board of Governors since 1976. He is only the third man in CDA history to hold the position.

He has also been Chairman of the Ontario Dental Association's Board for some time.

"I think I've been there 18 or 19 years. It's a long time, anyway," said Dr. Mancini. "At the time I was proposed as ODA Chairman, the format of the ODA was being restructured and I was a member of the ODA Board," he said.

Asked if he was getting bored with his Boards, Dr. Mancini told the Journal "No way. If people feel that this is the manner in which I can best help out, then I feel that I have to try."

Married with three children, Dr. Mancini graduated from the University of Buffalo with his DDS in 1948. He is a member of the Canadian Academy of Prosthodontists and a past-president of the Hamilton Academy of Dentistry.

ANNUAL CDA/DENTSPLY STUDENT CLINICIAN PROGRAM HELD DURING CDA CONVENTION

The fifteenth CDA/Dentsply Student Clinician Program was held in conjunction with the 1985 Convention of the Canadian Dental Association from September 29 through October 2 in Ottawa, Ontario. The program was again sponsored by Dentsply Canada, Ltd., through a special grant made to the Canadian Fund for Dental Education.

This year's program for Canadian students featured ten student table clinics and all Canadian dental schools were represented. Students received an expense-paid trip to Ottawa to present their table clinics

after placing first in their school's Spring Table Clinic Program.

Under the definition established by the Canadian Dental Association Council on Education, a table clinic is a table top demonstration of a technique or procedure concerned with some phase of research, diagnosis, or treatment as related to the profession of dentistry.

Mr. Robert Bizley of the University of Western Ontario claimed the Second Place Award for his clinic titled "Processed bases for removable prosthodontics." Mr. Peter Brawn of McGill University earned the First Place Award for his clinic on "Computer assisted orthodontic diagnosis and treatment planning: A system for the practitioner." Mr. Bizley received a cash award of \$150 and Mr. Brawn has been invited as an observer to attend the 126th Annual Session of the American Dental Association at San Francisco, California, during November 2-5 as an honoured guest of Dentsply International.

Other students participating, their schools, and clinic titles were: Marc Belanger, Laval University — "Lichen plan erosif"; Jacqueline Chudiak and Patricia Allewell, University of Saskatchewan — "Endodontics versus conventional irrigation"; Mark Hare, University of Toronto — "Effect of ambient and enamel fluoride on experimental caries in man"; Colleen Holland, Dalhousie University — "The 'cracked-tooth syndrome' — A pain!"; Sharon Lord, University of British Columbia

— "Malignant hyperthermia"; Robert Piedalue, University of Manitoba — "Computer-assisted mandibular Kinesiography"; Kenneth Poznikoff, University of Alberta — "Abrasion resistance of composites"; and Jean Sirois, University of Montreal — "Prevention des endocardites infectieuses."

A reception and dinner honoring student clinicians was hosted on Sunday evening, September 29 by Mr. Burton C. Borgelt, President and Chief Executive Officer of Dentsply International, representing the sponsors. The dinner was held at The Westin Hotel and was attended by approximately seventy persons including student clinicians, Deans, Faculty Program Advisors, and special guests representing the dental profession and dental education.

Distinguished guests at the head table included Dr. and Mrs. P. Ralph Crawford, Immediate Past-President of the Canadian Dental Association; Dr. Bradley W. Holmes and guest, President of the Canadian Dental Association; Dr. and Mr. David K. Peters, Chairman of the Canadian Fund for Dental Education; The Honorable Sinclair Stevens, Minister of Regional Industrial Expansion, Government of Canada; and Dr. Jon B. Suzuki, President of The Alumni Association of Student Clinicians-American Dental Association (SCADA).

The student clinicians presented their clinics for the benefit of those attending the Convention on Monday, September 30 at the Ottawa Congress Centre.



Participants and sponsors of the 1985 CDA/Dentsply Student Clinician Program gathered for this photograph following the Dentsply Canada Reception and Dinner honoring the students.

They are, first row, (l. to r.) Colleen H. Holland, Dalhousie University; Sharon T. Lord, University of British Columbia; Dr. P. Ralph Crawford, Immediate Past-President of the Canadian Dental Association; Jacqueline Chudiak, University of Saskatchewan; Mr. Burton C. Borgelt, President and Chief Executive Officer of Dentsply International; and Patricia Allewell, University of Saskatchewan. Second row (l. to r.) are Marc Belanger, Laval University; Robert J.G. Piedalue, University of Manitoba; Kenneth H. Poznikoff, University of Alberta; Mark Hare, University of Toronto; Peter Brawn, McGill University; Robert Bizley, University of Western Ontario; and Jean Yves Sirois, University of Montreal.

NEW DENTAL ASSOCIATION FORMED IN QUEBEC

The Association of Community Health Dentists of Quebec was founded recently. The group had its inaugural meeting in Montreal.

Association members can be any Quebec dentist working in Community Health Departments or in university teaching positions interested in the promotion of community dental health.

The two basic tenets of the new Association are: "to further the professional, intellectual and scientific interests of its members" and "to coordinate its members' activities for the purpose of the advancement of dental health."

At the inaugural meeting, the Association executives were elected. They are: Dr. Jean Robert Vincent, Verdun, President; Dr. Marc Geary, Montreal, Vice President; Dr. Ginette Veilleux, Montreal, Secretary Treasurer, and Drs. Yves Normand of Hull, and Charles Tessier of Sherbrooke as Directors.

Two committees were also formed. The Membership Committee chairman is Dr. Ginette Veilleux, and members of the committee are Dr. A. Vienneau and Mr. Jean-Louis Fortin. Chairman of the Communications Committee is Dr. Charles Tessier, with members being Dr. Marcel Tenenbaum and Mr. Jean-Louis Fortin.

The temporary address of the Association in ADSCQ, 8235 Sherbrooke St. East, Montreal, Quebec, H1L 1B3. Membership applications for the Association can be obtained by writing to the above mentioned address.

CFDE OFFERING FELLOWSHIPS

The Canadian Fund for Dental Education is again offering Fellowships.

Applications are being accepted for a fellowship for an existent university dental teacher. Sponsored by Warner-Lambert Canada, the award is worth \$2500. Candidates must be full-time members of the teaching staff of one of the Canadian dental schools or schools of dental hygiene. Candidates must have a minimum of five years teaching experience. The purpose of the award is "to provide an opportunity for an established teacher to refresh and extend his/her knowledge in any field of dental education and research." The proposed program should be of benefit both to the individual and to the school, and should be of approximately one-month duration.

The deadline for filing applications for the existent teacher fellowship is March 1, 1986.

Applications are also currently being accepted for Teacher/Researcher Training Fellowships. Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian Faculty of Dentistry or Dental Auxiliary Training Program. Preference will be given to those applicants who will return to a full-time teaching/research position.

The deadline for applications for Teacher/Researcher Training Fellowships is also March 1, 1986.

Further information on either of these fellowships is available from CFDE, 234 St. George St., Toronto, Ont. M5R 2P2, telephone: 416-928-0484.

A LARGER RSP — WITHOUT DEPOSITING MORE

Peter B. Dennett

Director of Retirement Services, CDSPI

Contributions in RSPs can grow substantially over the years through the magic of compounding. For instance, if you contribute \$5,500 a year on the last day that contributions are allowed, March 1st, over 30 years you can accumulate \$865,000, if the plan yields 10% a year.

By simply advancing that contribution date by 14 months, on January 1st the year previous, which is the first day that you can contribute for a tax year, over the same 30 years, and at the same 10% interest rate, your contributions can grow to \$995,000. That is \$130,000 more towards your retirement income over the same length of time. The following charts show the comparisons for different time periods.

Contributions of \$5,500 annually:

Year	* 14 Months Ahead of Deadline	
	Accumulated Value Each December 31st	
15	192,224	1999
20	346,515	2004
25	595,001	2009
30	995,191	2014
35	1,639,701	2019

Year	* March 1st Deadline	
	Accumulated Value Each December 31st	
15	166,684	1999
20	304,823	2004
25	514,506	2009
30	865,305	2014
35	1,429,958	2019

* Assume yield of 10% per annum.

There is another hidden advantage to contributing a year earlier to your plan. By depositing earlier each year, it shelters your capital and interest and therefore your \$1,000 (tax credit is available to apply against other interest).

So contribute to your CDA RSP early. Your plan has a wide array of investment options to choose from, and one or a combination of such options, is sure to fit your financial goals.

The CDA RSP values its investment funds weekly, and offers high interest rates on the Guaranteed Fund. For further information, call the Director of Retirement Services at the following toll-free numbers:

1-800-268-5418 Western Canada,
Atlantic Canada, and
Ontario Area
Code 807
1-800-268-3411 Québec and Ontario,
except Area Code 807
497-7117 Metro Toronto

HEALTH CARE WORKERS ARE BEING MONITORED FOR AIDS

Hospital personnel across Canada who may have been exposed to AIDS while treating AIDS patients are now being monitored through a national surveillance program.

Most of the hospitals invited to participate in the program have agreed to do so, according to Dr. Joseph Losos, who is director of the bureau of infection control with the Laboratory Centre for Disease Control in Ottawa. In all 216 hospitals, those with more than 200 beds, were contacted and invited to join the program, and close to 90 per cent accepted the invitation.

Workers who have actually been exposed or suspected of having been, will be monitored for a year, to determine if that person may have contracted the disease. This can occur if that health care worker has handled blood products, or suffered a "needle-tick injury" in which they have been pricked by a syringe which had come into contact with the bodily fluids of an AIDS victim.

Dr. Losos said there is no need to test other hospital patients because "there is no patient-to-patient contact which can spread the disease unless it is intimate contact."

In addition to tracking the health of workers thought to have been exposed to AIDS, the program will examine their lifestyle and medical histories to determine if he or she may be in a high risk group such as homosexuals, haemophiliacs or users of intravenous drugs.

All data collected will remain strictly confidential, Dr. Losos said.

TRIBUTE CARD IS NOW AVAILABLE FROM CFDE

The Canadian Fund for Dental Education is more and more frequently receiving donations from the dental profession to make possible further support to programs in dental research, education and service.

Many of these donations are being received from those who wish to mark special occasions in an appropriate manner, such as anniversaries, birthdays, the opening of a new office, etc.

CFDE trustees therefore, decided to develop a "Tribute Card" to fill the growing need.

Thus, the next time someone feels he or she would like to wish a friend or colleague

a speedy recovery, offer congratulations on an achievement, or express appreciation for a favor, he or she should keep in mind the "CFDE Tribute Card."

The process involves sending in the name and address of the person to be honored and a contribution of \$10 or more. CFDE will forward a suitably worded card to him or her and the donor will receive a tax deductible receipt.

The most important aspect of the tribute will be that the gift will be used exclusively to promote ever improving dental health services for all Canadians.

The gifts should be forwarded to:
The Canadian Fund for Dental Education,
234 St. George Street, Suite 202,
Toronto, Ontario M5R 2P1



CFDE's new "Tribute Card"

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on November 29, 1985.

<i>Common Stock Fund</i>	\$103.05195
<i>Fixed Income Fund</i>	\$48.91861
<i>Money Market Fund</i>	\$33.16354
<i>Balanced Fund</i>	\$19.95938

Total assets (market value) of the plan were \$49,411,042.

The previous month's figures, as of October 25, 1985, stood as follows:

<i>Common Stock Fund</i>	\$95.80793
<i>Fixed Income Fund</i>	\$47.84071
<i>Money Market Fund</i>	\$32.91236
<i>Balanced Fund</i>	\$19.17561
Total assets (market value) of	

the plan were \$47,425,026 as of October 28, 1985.

Guaranteed Funds Interest Rates as of November 29, 1985:

1 year	— 8.65%
2 years	— 9.35%
3 years	— 9.85%
4 years	— 10.10%
5 years	— 10.3%

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only, 1-800-268-3411 (toll free number for Quebec and Ontario except Code 807), and 497-7117 (Metro Toronto area).

It could mean life or death for my children.

I have Huntington's disease, a hereditary brain disorder which passes from generation to generation, causing slow physical and mental deterioration leading to total incapacitation and eventually... death.

I'm scared of what lies ahead for me but I'm even more frightened of what the future holds for my children. Each one has a 50:50 chance of inheriting the disease. That is why, what you choose to do now could mean the difference between life and death for them.

Recently, through research funded by your dollars, scientists have discovered a 'marker' which will lead us to the defective gene and hopefully a cure for Huntington's disease. No doubt it will come too late for me but with your help it could come in time to save my children.

Please send your cheque today and help make this the generation that beats Huntington's disease... forever.

Mail to:

The Huntington Society of Canada,
Box 333, Cambridge, Ontario
N1R 5T8

☐ Enclosed is my cheque to help fight Huntington's disease.

☐ I wish to be a volunteer.

☐ Please send me further information.

Name _____

Address _____

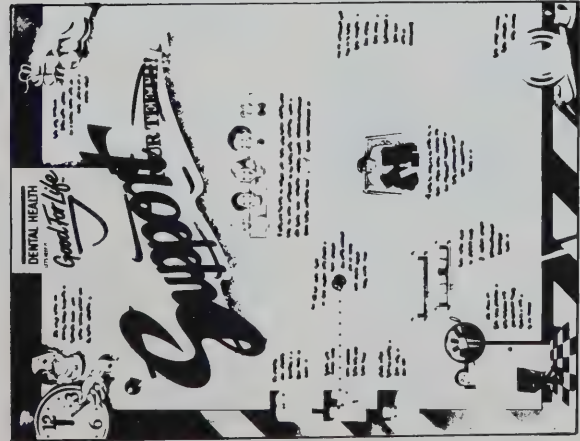
_____ Postal Code _____

All donations will be acknowledged and a receipt for income tax purposes forwarded promptly.

Charitable Reg. #046040-11-15



ALL DENTAL HEALTH
MONTH ORGANIZERS



Now that April is approaching, the Canadian Dental Association is offering you terrific new materials to help you with your dental health promotion - to help you help Canadians to understand what it means and what it takes to keep their dental health good for life.

The materials are all organized around the **Dental Health: Good for Life** theme. They feature the new **Good for Life** graphic identity - lively, evocative, instantly recognizable, and underlined with a friendly, open smile. Given high visibility, these materials will create a positive and dynamic climate for Dental Health Month programming in your community.

Here's what we're offering:

THE POSTER

This year's poster is bright and big (17" x 22"). Don't be misled by the black-and-white illustration here; the poster itself is in vibrant, eye-catching colour, and it's packed with fascinating and useful information. The poster is perfect for waiting rooms, schools, community or health facilities, and dental health displays of all kinds.

DENTAL HEALTH
LET'S KEEP IT



THE BUTTON

This year our button will be round, 1-3/4" in diameter. The message is **Dental Health: Let's Keep it Good for Life**. It's great for kids, teachers, dental professionals and anybody involved in dental health promotion.

THE MOTIVATION STICKER

Here's a great new item. We call it the Motivation Sticker. It's a clear, 2" x 2", shine-through **Good for Life** logo sticker. There are hundreds of ways to use the "motivation that sticks." Our favourite: place it on the bathroom mirror, where it's a daily reminder for everyone to do what it takes to keep their dental health good for life.

THE NATIONAL DENTAL HEALTH CHECKUP

Last year the Canadian Dental Association's **Good for Life** program produced a magazine supplement which appeared during Dental Health Month in Maclean's and L'Actualité. A limited number of copies are still available and can be ordered at no cost other than postage and handling. It's a 12-page booklet, 8-1/2" x 11", and it contains 20 questions with detailed answers about various aspects of dental health. The Checkup is great for handing out in conjunction with your promotional activities.

THE RADIO MESSAGE

We're also offering cassette copies of a 30-second public service announcement for broadcasting on local radio stations. Acted and produced professionally, it consists of a lively and informative dialogue about dental health. The message is based on the **Dental Health: Good for Life** theme and contains some surprising facts - not just that dental disease is the most common chronic health problem in Canada, but also that gum disease (not tooth decay) is responsible for most adult tooth loss.

To order these materials, just fill out the order form portion of this page and send it to:

Canadian Dental Association
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6

QUANTITY PER UNIT COST TOTAL

POSTERS

English	@ \$.60 each =
French	@ \$.60 each =

MOTIVATION STICKERS

(must be purchased in lots of 100)

English	@ \$10.00/100 =
French	@ \$10.00/100 =

BUTTONS

(must be purchased in lots of 25)

English	@ \$ 5.00/25 =
French	@ \$ 5.00/25 =

RADIO CASSETTE

(available in English only)

English	@ \$ 3.50 each =
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NATIONAL DENTAL HEALTH CHECKUP

(will be shipped C.O.D.)

English	
French	

SHIP TO:

Name: _____
Address: _____

Postal Code _____ Telephone _____

Please make cheques payable to the Canadian Dental Association.

Newfoundland and New Brunswick's provincial dental acts and dental association by-laws have been amended and redrafted to allow incorporation of dental practices in those provinces, and now the Nova Scotia Dental Association is investigating the matter.

A special ad hoc proposal committee to work closely with the Newfoundland Dental Association and New Brunswick Dental Society officials who have gained the experience of the necessary legislation and any possible pitfalls, is the approach taken by the NSDA.

Two Canadian orthodontists recently achieved honours with the International Association for Orthodontics (IAO).

Dr. Brock Rondeau of London Ontario, was installed as President of the IAO, the first President of the Association from Ontario in its 24-year history. Dr. Richmond Cheng of North Vancouver B.C. was named as Editor for the Association.

In addition, Dr. Cheng also was awarded his certification in general orthodontics from the International Board of Orthodontics. The International Board of Orthodontics is administered by the IAO.

Dr. Cheng is a graduate of the University of Alberta in 1966 while Dr. Rondeau graduated in 1966 from Dalhousie University, in Halifax, Nova Scotia.

The Soroptimist International Club of Toronto is offering a fellowship with a maximum value of \$7,500 to a person enrolled as a full-time student in a post-graduate degree program or in a post-graduate program to acquire additional professional qualifications in some area of study related to gerontology.

The criteria for eligibility include: (a) Canadian citizenship, landed immigrant status and an Ontario resident, who can demonstrate a need; (b) registered in an accredited post-graduate degree program or in an accredited professional post-graduate program, specializing in some area of study

related to gerontology; (c) show through his/her work a demonstrated involvement in the field of gerontology for a period of not less than five years and a commitment to this area of study; and (d) a person intending to spend a minimum of two years after the time of study, working in the field of gerontology in Canada.

Applications must be submitted by March 31, 1986. Application forms are available from Nancy E. Stewart, 30 Oriole St. Toronto, Ontario, M5P 1L5.

In the November 1985 issue of this Journal, (Vol. 51, No. 11) a reference was inadvertently left out of the article "Competency Profiles and the Accreditation Process" by Brian Henderson.

The reference to competency profiles or "DACUM'S (Development of a Curriculum)" should have given credit to Sister Dorothy Ryan, B.Sc., RT, from whom the DACUM system originated.

Apologies for the oversight on the part of the Journal editors are offered to both Sister Ryan and Mr. Henderson.

Holders of Killam Research Fellowships of the Canada Council may benefit from a policy recently adopted by the National Sciences and Engineering Research Council.

All winners of the Killam Fellowships who hold NSERC operating grants will be given the opportunity to request additional funding from NSERC.

The Killam Fellowships are given out annually to support senior scholars of "exceptional ability engaged in research projects of outstanding merit in the humanities, social sciences, natural sciences, medicine and engineering and interdisciplinary studies within these fields."

The deadline for submission for a 1987 Fellowship is June 1986. Application forms, which will be available in February can be obtained from any Canadian university registrar, the Canada Council or by writing the Killam Program, The Canada Council, P.O. Box 1047, Ottawa, Ontario K1P 5V8.

As is usually the case, there were security guards posted at the entrance to symposium and lecture rooms and social function halls at the CDA Convention '85 in Ottawa.

Just how effective they were in Ottawa was dramatically proved to the satisfaction and discomfort of Past-President Dr. Ralph Crawford and Convention Chairman, Dr. Donald J. O'Connor.

As they approached the entrance to the reception area for the "Canada on Parade" function at the Convention in Ottawa Congress Centre, they were restrained by security guards, because they didn't have their badges bearing their names.

"But I'm the President of the CDA and this is the general chairman of the Convention," Dr. Crawford explained.

The guard wanted to know how they could prove it. The names Crawford and O'Connor meant nothing to him. Eventually, however, the guard was convinced.

As Dr. Crawford approached a group of amused friends at the reception, he commented "Now that's security!"

The office of The Canadian Dental Hygienist, the national journal for the Canadian Dental Hygienists' Association, has been centralized.

Effective immediately, the offices of The Canadian Dental Hygienist will be at the CDHA head office at 1320 Carling Avenue, Ottawa, Ontario, K1Z 7K9, telephone 613-728-8730.

Subscriptions as well as all inquiries should be directed toward the national office at the above address and telephone number. For more information, contact either Carol Worobey or Dianne Tivy at the above telephone number.

In the October 1985 (Vol. 50, No. 10, 1985) of this Journal, two small errors were made in the article by Dr. Marvin Kay, "This Office Will Be Closed". Ben Z. Swanson, who was the source for reference No. 1, has the degree of DDS, not SDS, as published. In addition, Dr. Kay's correct postal code is M6C 3A8.

Apologies are offered to Dr. Kay.

An interesting bit of Canadian historical trivia came to light recently through a Health and Welfare Canada publication.

It is perhaps interesting to note that the present federal Minister of Health and Welfare, Jake Epp, was elected a Member of Parliament for the riding of Provencher in Manitoba, in 1984.

About 110 years earlier, the member elected from Provencher was *Louis Riel*.

The Midwest Section of the Canadian Association for Dental Research held their inaugural meeting November 2, 1985, in Saskatoon.

At that meeting, the executive committee was re-elected for a second term. The Committee members are Dr. G.H. Sperber from Alberta, and Drs. P.B. Innes and K. Komiyama from Saskatchewan.

During the session, researchers from the dental faculties at the universities of Manitoba, Alberta and Saskatchewan presented a total of 22 papers. Subjects covered included operative dentistry, basic dental science and dental epidemiology.

Abstracts of the papers presented will be published in an upcoming issue of the *Journal of Dental Research*.

The College of Dentistry of the University of Saskatchewan recently established a memorial fund as a tribute to the memory of the College's first two deans, the late Dr. K.J. Paynter and Dr. C.W.B. McPhail.

The College plans to use the fund to establish an annual memorial lecture.

Further details will be provided within a few months.

New members of the Council of the College of Dental Surgeons of Saskatchewan, elected in October, assumed office on January 1.

The President for 1986 is Dr. Murray McKechnie of Swift Current, Sask. The Vice-president is Dr. Glen Howard of Prince Albert, Sask.

Also elected at the October meeting were new Council members Dr. Keith Hamilton of Saskatoon and Dr. Stanley Jansen of Yorkton.

The October meeting was the last one for Saskatchewan Dean of Dentistry Dr. Ernest R. Ambrose, whose resignation from that post became effective December 31.

Members of the Alberta Dental Association will have an opportunity to debate an issue plaguing some provincial bodies in recent years — faltering attendance at conventions — at their annual meeting in July.

One of the possibilities put forward is a mandatory per-member levy of \$50 to help

defray the costs of annual conventions. Some members of the ADA Board believe that the move would encourage attendance in greater numbers, because, they pointed out, if all members attended they could get a \$50 credit toward their registration fee. On the other hand, if attendance was sparse, the \$50 would do much to support the convention budget.

It was also pointed out that this method has been used in the Province of Quebec and the State of Utah in the United States, with some visible measure of success. It has been reported that their annual meetings and conventions have enjoyed 90 per cent attendance.

The concept will get its first airing at Cold Lake between July 30 and August 2.

Researchers in Finland have discovered another probable benefit of fluoridated water.

Research indicates that fluoridation of community water supplies is associated with a lower incidence of fracture of the neck of the femur (thigh bone). Residents beyond the age of 50 were compared in two towns in Finland during the period from 1967 to 1978. Each town was similar in its economic structure, in the number of residents over 50 and in age and sex distribution. One town has had fluoridated drinking water since 1959, while the other has only trace amounts of fluoride in its water supply.

The study revealed a difference by age and sex in each town for the incidence of femoral neck fractures. Of 395 such fractures in

all residents older than 50, 304 were in women. The annual mean fracture incidence by age in all age groups was lower in the fluoridated water community. In men, the incidence of fracture was 2.5 per 1,000 in the fluoridated community and 7 per 1,000 in the non-fluoridated one. For women, the incidence rate was 9 per 1,000 in the non-fluoridated town and 6 in 1,000 in the fluoridated one.

The researchers said similar comparisons are evident between other fluoridated and non-fluoridated towns in Finland.

Because there have been so many inquiries from the general public and dental personnel about AIDS, the ADA Council on Dental Therapeutics has prepared a report: "Facts About AIDS for the Dental Professionals," for practitioners and their staff members throughout the United States.

The report, seven pages in length, focuses on the question of risk of AIDS to patients, dentists and dental staff, especially of possible transmission of the virus. The message is provided in a question-and-answer format. Information in the booklet is derived from data supplied from the Centres for Disease Control in Atlanta, Georgia, also from medical literature and assistance from consultants to that ADA Council.

Current information is provided, but the booklet states that new information about AIDS is becoming available every day and the Council will continue to provide updates to the profession.

As the photograph shows, the ACFD Summer Teaching Institute, was well attended, by representatives from every dental faculty in Canada.

The Teaching Institute was held at the University of British Columbia, and supported by the Canadian Fund for Dental

Education. The Royal College of Dental Surgeons of British Columbia supported the closing banquet for the participants.

Plans are currently underway to hold the 1986 Summer Teaching Institute the last two weeks in June in either London, Ontario, or Montreal, Quebec.



Left to right are: Drs Ron Boyer, Manitoba; Dean Kolbinson, Saskatchewan; Ross Fisk, Toronto; Bob Macdonald, Dalhousie; Richard Lewis, Western Ontario; Mike Pharoah, Toronto; Linda Lee, Saskatchewan; Wesam Al-Joburi, McGill; Mike Sigel, Toronto; Monique Michaud, Montreal; Jack Stockton, Manitoba; Dale Miles, Dalhousie; Claude Lamarche, Montreal; Sylvie Morin, Laval; David Scott, Alberta; Bruce Squires (Institute Director, Western Ontario); Keith Compton, Alberta; Harinder Sandhu, Western Ontario; Monick Valois, Laval; John Eisner, (ACFD Co-ordinator, Dalhousie); Lawrence Yanover, Western Ontario; Walter Meyer, Alberta. Missing is Dr. Bill Wood, British Columbia.

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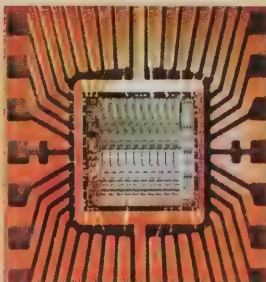
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- References: 1. LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983).
2. MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979).
3. ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976).
4. YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

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ALCOHOLISM, SUBSTANCE ABUSE AND THE DENTIST

L'ALCOOLISME, LES EXCÈS ET LE DENTISTE

1. Arthur, M.S. *The Maryland Impaired Dentist Program*. Journal of the Maryland State Dental Association, v. 24, no. 2, August 1981, pp. 55-58.
2. Aston, R. *Drug Abuse. Its relationship to dental practice*. Dental Clinics of North America, v. 28, no. 3, July 1984, pp. 595-610.

Abstract:

Drug abuse appears destined to become an exacerbating cultural phenomenon despite intrinsic dangers to the abuser and accelerating costs to society. Dentists cannot afford to ignore the problem or its sequelae either in terms of personal involvement or in terms of the clinical implications of such a practice for their patients. Abuse of agents, such as opioids and amphetamines, by the dental practitioner leads to devastating personal, social, and professional consequences. The abuser jeopardizes his or her reputation, family relationships, professional practice, and, not uncommonly, his or her very life through accidental overdose of drugs or by suicide. Nitrous Oxide abuse is particularly prevalent among dentists and, although producing no psychological dependence, may result in long-term myeloneuropathy and physical disability, making continued dental practice impossible.

3. Busch, L. *Rehabilitating the impaired dentist: a look of what the profession is doing to help*. Journal of the American Dental Association, v. 105, no. 5, November 1982, pp. 781-787.
4. Carden, E.T. *Whither the impaired dentist?* Journal of the New Jersey Dental Association, v. 53, no. 4, Fall 1982, pp. 15-17.
5. Cassell, D.K. *Understanding the alcoholic dentist*. Dental Economics, v. 69, no. 2, February 1979, pp. 52-57.
6. Forrest, W.R. *Stresses and self-destructive behaviors of dentists*. Dental Clinics of North America, v. 22, no. 3, July 1978, pp. 361-371.

Abstract:

The practice of dentistry is both a rewarding and a demanding profession, and the dentist's well-being may depend largely on how successfully he learns to keep the rewards and demands of his job in proper perspective. In order to achieve a desirable balance, he needs to identify the causal factors of stress and strain and take measures to eliminate, or at least lessen, their negative impact on his emotional health. This may involve a reevaluation of life style, health habits, and personal goals.

7. Gutmann, L. and others. *Nitrous Oxide-induced myelopathy-neuropathy: potential for chronic misuse by dentists*. Journal of the American Dental Association, v. 98, no. 1, January 1979, pp. 58-59.

Abstract:

The myelopathy and neuropathy associated with chronic misuse of nitrous oxide are potentially reversible if the habit is discontinued. This occurred in each of the reported cases, including our case, when it was transiently discontinued. Although a causal relationship between nitrous oxide and this myelopathy-neuropathy has not been proved, the circumstantial evidence is convincing. Both physicians and dentists should be aware of this potentially serious complication of chronic self-administration of nitrous oxide, especially in persons inclined to misuse drugs. Dentists, with their access to nitrous oxide, may be particularly at risk.

8. Hedge, H.R. *The high cost of addiction*. Dental Economics, v. 75, no. 3, March 1985, pp. 50-55 and 58-59.
9. Hedge, H.R. *Recovering addicted dentists: a preliminary survey*. Iowa Dental Journal, v. 68, no. 3, July 1982, pp. 41-42.
10. Johnson, R.P. and Connelly, J.C. *Addicted physicians. A closer look*. Journal of the American Medical Association, v. 245, no. 3, January 16, 1981, pp. 253-257.

Abstract:

Fifty physicians were evaluated and treated in a psychiatrically oriented, short-term addiction program. Psychopathology ranged from overt schizophrenia to no demonstrable psychiatric syndrome other than addiction. Physicians experiencing addiction problems before age 40 years were more likely to exhibit serious psychopathology in the borderline range, while physicians older than 40 years were more-

likely to exhibit organic brain impairment and depression. Treatment outcome had some relation to psychiatric diagnosis but no relation to the addictive agent.

11. Layzer, R.B. *Myeloneuropathy after prolonged exposure to nitrous oxide*. Lancet, v. 2, no. 8102, December 9, 1978, pp. 1227-1230.

Abstract:

A neurological disorder developed after prolonged exposure to nitrous oxide in 15 patients, all but 1 of whom were dentists. 13 patients had abused nitrous oxide to some extent for periods ranging from 3 months to several years, but 2 patients exposed to nitrous oxide only professionally, by working in poorly ventilated surgeries. Symptoms included early sensory complaints, Lhermitte sign, loss of balance, leg weakness, gait ataxia, impotence, and sphincter disturbances.

12. Parness, W. *Hotline for help. Help is as close as the telephone in this bold new California program*. Dental Management, v. 17, no. 9, September 1977, pp. 49-54.
13. Polf, M.K. *Implementing the DSSNY Dentists Assistance Committee*. New York State Dental Journal, v. 49, no. 4, April 1983, pp. 226-227.
14. *The problem drinker dentist*. Texas Dental Journal, v. 95, no. 4, April 1977, pp. 19-20.
15. Shanahan, W.J. *The emperor's new clothes: a program to help the impaired professional*. Ohio Dental Journal, v. 57, no. 1, January 1983, pp. 40-42 contd..
16. Shanahan, W.J. *For every problem there is a solution*. Ohio Dental Journal, v. 57, no. 3, May 1983, pp. 48-49 concl.
17. Shankle, R.J. *Suicide, divorce, and alcoholism among dentists, fact or myth?* North Carolina Dental Journal, v. 60, no. 2, Spring 1977, pp. 12-15.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged \$5. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational in the library since February 1982, and is at the disposal of all members.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour \$5 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS, un système informatisé de recherche bibliographiques pour les sciences de la santé. Ajouté à la bibliothèque en février 1982, ce système est à la disposition de tous les membres.

NEW LIBRARY ACQUISITIONS

TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Carpenter, Malcolm B. *Core Text of Neuroanatomy*. 3rd edition. Baltimore. Williams & Wilkins, 1985, 473p. 1 copy.
2. Chomenko, Alex G. *Atlas for Maxillofacial Pantomographic Interpretation*. Chicago: Quintessence Publishing Company, 1985. 296p. 1 copy.
3. Frandsen, Asger, editor. *Dental Health Care in Scandinavia: Achievements and Future Strategies. A Symposium Held in Oslo, Norway, January 27th, 30th, 1981*. Chicago: Quintessence Publishing Company, 1982, 259p. 1 copy.
4. Glazebrook, Peter. *Happiness and Fulfilment in Dentistry*. London, England: Quintessence Publishing Company, 1985, 125p. 1 copy.
5. Hjørting-Hansen, E., editor. *Oral and Maxillofacial Surgery: Proceedings from the 8th International Conference on Oral and Maxillofacial Surgery*. Chicago: Quintessence, 1985. 596p. 1 copy.
6. Jacobson, Alex and Caufield, Page W. *Introduction to Radiographic Cephalometry*. Philadelphia: Lea & Febiger, 1985. 137p. 1 copy.
7. Lewin, Arthur and Ramadori, Guido. *Electrognathographics: Atlas of Diagnostic Procedures and Interpretation*. Chicago: Quintessence Publishing Company, 1985. 173p. 1 copy.
8. Milgrom, Peter and others. *Treating Fearful Dental Patients: A Patient Management Handbook*. Reston, Virginia: Reston Publishing Company, 1985. 320p. 1 copy.
9. World Health Organization. *Oral Health Care Systems: An International Collaborative Study*. London, England: Quintessence Publishing Company, 1985. 218p. 1 copy.

OBITUARIES/NÉCROLOGIES

CUNNINGHAM, J.E.: Dr. Cunningham graduated from the University of Toronto in 1952 and was a practicing dentist in Ottawa, Ontario, at the time of his death.

DICKIE, W.K.: Born in 1921, Dr. Dickie was a graduate of Dalhousie University in 1954. He was residing in Halifax, Nova Scotia, at the time of his death.

DUBÉ, L.-B.: Né en 1920 et diplômé de l'Université de Montréal en 1946, le Dr Dubé demeurait à Québec au moment de son décès.

ERLICK, M.: A Life Member of the Canadian Dental Association, Dr. Erlick graduated in 1931 from McGill University. He was a resident of Westmount, Quebec, at the time of his death.

HALL, W.G.: Born in 1916, Dr. Hall was a Life Member of the Canadian Dental Association. He was a graduate of the

University of Glasgow in Scotland in 1940 and was residing in Victoria, B.C., at the time of his death.

HATELEY, R.M.: A graduate of the University of Western Ontario in 1973, Dr. Hateley was born in 1947. He was a resident of London, Ontario, at the time of his death.

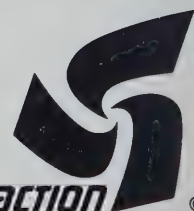
KAHN, A.: Né en 1905, le Dr Kahn a obtenu son diplôme à l'Université de Montréal en 1963. Il demeurait à Montréal au moment de son décès.

MACLELLAN, A.J.: Born in 1912, Dr. MacLellan graduated from McGill University in 1949. He was a resident of Antigonish, Nova Scotia, at the time of his death.

PURCELL, C.M.: A Life Member of the Canadian Dental Association, Dr. Purcell resided in Pembroke, Ontario, at the time of his death. He was born in 1898 and graduated from the Royal College of Dental Surgeons in Toronto in 1923.

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Book Reviews

ADVANCED DENTAL HISTOLOGY, 4th EDITION

J.W. Osborn and A.R. Ten Cate
John Wright — PSG

Bristol — London — Boston
1983, 209pp.
\$17.50 U.S.

This book is the fourth edition of the text originally published as *Advances in Dental Histology*, in 1967. It is well written, easy to read and generally free of technical errors. As in previous editions, the authors have made excellent use of simple line diagrams to illustrate all aspects of this work. The three dimensional cut out and fold illustration of amelogenesis is particularly effective in facilitating the readers' understanding of prism formation and crystallite orientation. The authors have updated most topics and recent references can be found at the end of each chapter.

Despite the authors' claims to the contrary, much of this text is not advanced. Indeed, chapters one and two contain relatively elementary information concerning investigative techniques and non-specific cell organelle structure and function. Both chapters could be omitted without compromising the authors' objectives. Similarly, chapter three contains only basic information which need not be part of an advanced text, and portions of the following chapters also contain basic information that can be found in most undergraduate texts concerning dental anatomy and histology. The inclusion of some such material may be justified to give the reader sufficient background knowledge to comprehend the more advanced information which follows.

Recent theories concerning many aspects of dental biochemistry, embryology and physiology are presented, often in detail and include a thorough review of advances in such topics as amelogenesis, dentinogenesis, cementogenesis and morphogenesis. A major strength of the book is the authors'

often unbiased presentation of experimental evidence supporting opposing theories. One exception to this trend is their unequivocal statement that the attachment of junctional epithelium to dental hard tissues is understood because hemidesmosomes have been observed between the epithelial cells and the basal lamina covering the tooth. However, this observation does not explain how the basal lamina attaches to the tooth. Does it involve fibronectin, laminin, type IV or type V collagen?

Some topics including the effects of vitamin D and parathyroid hormone on hard tissue genesis, predentin thickness and dentinal phosphophoryns were, unfortunately, not addressed in this book. However, the authors make no claim that the text is fully comprehensive and are, therefore, justified in limiting their selection of topics.

I believe that this book would be valuable to staff members and graduate students studying dental histology or embryology. It would also be a valuable adjunct to basic texts on this topic for undergraduate dental students.

*This book was reviewed by
T.D. Daley, DDS, MSc, MRCD(C)
Assistant Professor,
Division of Oral Pathology,
University of Western Ontario
London, Ont.*

THE LIFE AND TIMES OF G.V. BLACK

C.N. Pappas

Quintessence Publishing, Chicago, Ill.

The author asks the question, "What kind of a man was Greene Vardiman Black? What had he accomplished that made him so respected and so honoured?" Through the penmanship of the author he gives us insight into the character of a truly great man and thus answers these questions. Through reference to diaries and the writings of the offspring of G.V. Black we learn that he was a poor student in his youth and

yet, as a young man, he began studies in medicine under the guidance of Dr. Thomas Black, an older brother. However at this juncture in the book, the manuscript becomes disjointed. For example it is noted that G.V. Black began to read medicine sometime after moving in 1852 to the same community as his brother. We are then told that shortly after commencing his medical studies G.V. Black met Dr. J.C. Speer a dentist and as a result of this meeting he gave up the study of medicine in order to study dentistry under Dr. Speer. From then on over the next nine pages we are treated to a description of early dental textbooks and their significance to the career of G.V. Black before being told that after a "few weeks" with Dr. Speer, G.V. Black having felt he had learned all he could, began the practice of dentistry in 1857. Although it is recognized that the intent is to establish the status of the art of dentistry prior to G.V. Black joining the profession, it would have been better for the sake of continuity to maintain the same chronological order that the author uses from this point onward. That is, the text then describes the many contributions G.V. Black made to the profession of dentistry through his research and inventions which are legendary. We also learn that even at the age of 73 years G.V. Black in his address at a dinner given in his honour in 1910, stated that he loved the work he was doing and was not ready to quit. The author also by appropriate selection of excerpts from his reference source material, shows that G.V. Black was the type of person who would go as far as he could with a subject and even though not completed, investigate another subject and then return to the first study with renewed vigor and complete it in spite of a great many discouragements.

Even the individual with a minimal interest in history can not help but have their curiosity stimulated by the author's description of the arrival of Black's ancestors in America and the events of their lives up to August 1836, the date of G.V. Black's birth. This

book being only 128 pages in length may in the minds of some readers not give justice to all of G.V. Black's accomplishments. However, the book in this reviewer's opinion does describe the highlights of a remarkable individual; an individual to whom all of us in the profession of dentistry owe a great deal. I thoroughly enjoyed reading the *Life and Times of G.V. Black* and strongly recommend the book to the neophyte commencing their dental undergraduate education. I also suggest that all practitioners will be delighted as I was at having a refresher course on an important part of Dental History. In addition, I believe we all need reminding from time to time that like G.V. Black, we are students to the end of our careers.

*This book was reviewed by
Dr. J.M. Plecash
Faculty of Dentistry
University of Alberta*

OCCUPATIONAL HAZARDS IN DENTISTRY

Harriet S. Goldman,
Kenton S. Hartman, and
Jacqueline Messite

*Year Book Medical Publishers Inc., 1984
Chicago, Illinois
\$37.25 (approx.) 208 pages*

Dentistry is a professional vocation not entirely devoid of occupational hazards. They range from infection from airborne and bloodborne organisms to disorders caused by chemical agents in the form of waste anaesthetic products and airborne particulates, mercury, ethylene oxide and beryllium, to skeletal disorders to problems in radiation hygiene and to the nemesis of all dentists — stress. It is probably safe to aver that in dental education we have been somewhat remiss in not adequately preparing our students to recognize and thereby if not avoid at least markedly reduce many of the occupational hazards of the dental environment.

"Occupational Hazards in Dentistry" is an excellent book, of multiple contributors, the reading of which could materially benefit every practising dentist. The spectrum of dental occupational hazards has been effectively addressed and the compilation of the experience of the eleven contributors has resulted in a ready reference of practical significance. Additionally, measures are suggested to avoid damaging injuries; exposure to infectious diseases; mercury toxicity; anaesthetic, noise, and radiation hazards; ergonomic (action and interaction among man, machines, and environment) considerations; and, to this reviewer the most important of all, the management of

stress. About the only vocation within which the potential level of stress is even comparable to the practice of dentistry is bomb disposal!

The book suggests that causes of premature death among middle aged male dentists are, in order of frequency, cardio-vascular disease, lung cancer, automobile accidents, cirrhosis, and stroke. These are all primarily diseases or conditions of choice — basically related to lifestyle. Stress, of course, is the major component. Interestingly, none of the named conditions is infectious in nature thus giving support to the thesis that dentists seem often to adopt self-destructive habits that lead to these problems.

If the only topic addressed were that of Chapter 10, "Stress and Distress in Dental Practice," the book would still be a worthwhile addition to one's library. But in combination with the full range of occupational hazards, treated so effectively and comprehensively, the treatise is one which can be read with profit even by dentists who would contend they are already practising and living in a manner in which the indigenous occupational hazards have been wrestled to the irreducible minimum. Were any practitioner to be functioning in such Utopian fashion — and this reviewer has not yet met the one who is — the content even to him or her would be a strong vehicle of reinforcement.

*This book was reviewed by
Dr. Wesley J. Dunn, Professor
Division of Community Dentistry
The University of Western Ontario
London, Ontario*

REALITIES OF DENTAL THERAPY

R.L. Moloff & S.D. Stein

*Quintessence Publishing Co.
459 pgs.*

Anyone who has read and enjoyed "Evaluation, diagnosis and treatment of Occlusal Problems" by Peter Dawson would likely find this book a "gem". All too often we attend a course and we are shown a practitioner's best. Then we return to our office and struggle to achieve this perfection. So often the addition of just a few more slides or sentences might present the side of reality that would give us a better perspective. The authors of this atlas describe themselves as being relatively unknown and they concede that many excellent texts have been written on the subject of perio-prosthetics by leaders in the field. Despite this handicap the atlas comes off in a unique style which readily enables the practitioner to identify and relate cases he or she may see in daily practice to similar cases depicted

in this book. The present trend is toward more complete patient care. There is a need to tie together periodontal, orthodontic and prosthetic care. This book stresses team dentistry and the essentials for the multidiscipline approach. One should hone their skills to the maximum but should recognize their limitations and refer to a specialist when required to attain a quality result. The strength of this book is in diagnosis and case sequencing which is so often the downfall in the treatment of a complex case. There are chapters dealing with Basic Concepts of Periodontics; Establishing a Wave Length — Clinical Objectives; Team Dentistry; Priorities in Treatment etc. The atlas presents a detailed examination of twenty-four cases. These cases represent a wide spectrum of situations. A few of the interesting problems dealt with are: orthodontics for crowding; emotional aspects of patients with diastema; surgical treatment of ridge areas; evaluating provisionals in determining the final treatment plan; philosophy for leaving selected edentulous areas unrestored; basic goals of occlusion, treatment of posterior bite collapse; evaluation and management of the poorly motivated patient; surgical orthodontics; maintaining trifurcated molars; bruizer: restoring vertical dimension; uses of root resections; lateral tongue thrust; endo considerations in treatment planning etc. etc.

It would be very easy to find criticism with this atlas. The techniques and philosophies presented are those of the authors. Many of these techniques and philosophies could be challenged. Areas of controversy would include the rationale for adjunctive antibiotics; indications for muco-gingival and bone grafting procedures; occlusal considerations, consideration of pocket depth as being a non-maintainable situation. Some of the techniques leave something to be desired and certainly many are now out of date or obsolete. It would be pointless to find fault with every technique or philosophy which has pros and cons. The basic premises are valid and every generalist and specialists in all branches of dentistry should consider this atlas necessary reading. All cases are well illustrated with slide material and appropriate radiographs (all in black and white). Many of these cases have "stood the test of time". The specialist as well as the generalist can be guilty of less than quality dentistry. One comes away with a strong feeling of the responsibility of each and every member of the profession to recognize his strengths, weaknesses and to provide the best possible care for each and every patient seeking dental services.

*This book was reviewed by
Dr. Claude G. Ibbott, periodontist,
Regina, Sask.*

Continuing Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Dalhousie University Faculty of Dentistry 5981 University Ave., Halifax, N.S. B3H 3J5	Halifax, N.S. Dalhousie University	Managing the Dental Practice Finances	Practice Management	Jan. 24 (Evening) Jan. 25 1986	Lecture	Ms. Suzanne Sheaves & Mr. Larry Hood	Open	\$150 for DDS \$90 Aux.	GPs Others	Dr. Gary Jackson (902) 424-2248
Dalhousie University and The Newfoundland Dental Association	Corner Brook New-foundland	Peri-odontics in General Dentistry	Peri-odontics	Feb. 21 and 22 1986	Lecture	Dr. Crawford Bain	Open	TBA	GPs Assistants Hygienists	Dr. Gary Jackson (902) 424-2248
Dalhousie University Faculty of Dentistry 5981 University Ave., Halifax, N.S. B3H 3J5	Halifax, N.S.	TMJ/MPD	Pain Management	April 18 and 19 1986	Lecture	Dr. A. Thompson & Dr. D. Miles	Open	\$180 DDS \$100 Aux.	GPs Assistants Hygienists	Dr. Gary Jackson (902) 424-2248
McGill University Faculty of Dentistry 740 Docteur Penfield Montréal, Qué. H3A 1A4	Montréal, Qué.	Geriatric Dentistry	Dentistry for the Aged	April 18 1986	Lecture	Dr. Rita Hurley Dr. F. Vosburg		TBA	GPs	Mrs. Olga Chodan (514) 392-4921
University of Western Ontario Faculty of Dentistry, London, Ontario N6A 5C1	London, Ont.	Orthodontics for the General Practitioner	Orthodontics	Jan. 24 1986	Lecture	Dr. A.H. Mamandras	Maximum of 20	\$150	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry, London, Ontario N6A 5C1	London, Ont.	Occlusion II A Gnathologic Waxing Course	Occlusion	Jan. 31 Feb. 1 1986	Lecture Participation	Dr. W.R. Teteruck	Maximum of 15	\$475	GPs Lab. Technicians	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry, London, Ontario N6A 5C1	London, Ont.	Guiding the Developing Dentition	Pedodontics	Feb. 21 and 22 1986	Lecture Participation Demonstration	G.Z. Wright and J.T. Kapala	Maximum of 20	\$225	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry, London, Ontario N6A 5C1	London, Ont.	Electro-surgery in General Practice	General Dentistry	March 14 1986	Lecture Participation	D.R. Gratton	Maximum of 20	\$225	GPs	Mrs. Maureen J. Firmston (519) 679-2550

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Western Ontario Faculty of Dentistry, London, Ontario N6A 5C1	London, Ont.	Complete Dentures	Prosthodontics	March 21 and 22 1986	Lecture Participation	Dr. P.S. Sills	Maximum of 35	\$250	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Aesthetic Dentistry	General Dentistry	April 3 to 5 1986	Lecture Participation	R.E. Jordan and D.R. Gratton	Maximum of 30	\$525	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Panoramic Dental Radiography	Oral Radiology	April 9 1986	Lecture Participation	R.G. Stephens	Maximum of 15	\$120	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Removable Partial Dentures	Prosthodontics	April 10 to 12 1986	Lecture Participation	Dr. P.S. Sills	Maximum of 24	\$400	GPs Lab. Technicians	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Forensic Dentistry: An Overview	Forensic Dentistry/ Sciences	April 18 1986	Lecture Demonstration	Dr. S.L. Kogon	Maximum of 30	\$ 75	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Occlusion III A Practical Approach to Occlusal Equilibration	Occlusion	April 18 and 19 1986	Lecture Participation	Dr. W.R. Teteruck	Maximum of 16	\$500	GPs	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Basic Cardiac Life Support and a Review of Emergency Drugs	Emergency Dentistry	April 19 1986	Lecture Participation Demonstration	I.D.F. Schofield	Maximum of 24	GPs \$125 \$75 Auxiliaries	GPs Assistants Hygienists Dentists' Wives	Mrs. Maureen J. Firmston (519) 679-2550
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Nitrous Oxide Oxygen Conscious Sedation	Oral and Maxillofacial Surgery	May 15 to 17 1986	Lecture Participation	I.D.F. Schofield	Maximum of 25	\$350	GPs	Mrs. Maureen J. Firmston (519) 679-2550

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Western Ontario Faculty of Dentistry London, Ontario N6A 5C1	London, Ont.	Practice Administration in the 80s	Practice Management	May 30 and 31 1986	Lecture		Maximum of 40	\$200	GPs Assistants Hygienists Receptionists	Mrs. Maureen J. Firmston (519) 679-2550
University of Manitoba Faculty of Dentistry & Winnipeg Dental Society 780 Bannatyne Ave. Winnipeg. R3C 0W3	Winnipeg, Manitoba	Alumni Homecoming/ Home Talent Perio-Prosthetics	Periodontics Prosthodontics	March 7 & 8 1986	Lecture	Various presenters	Open	Free	GPs Specialists	Pat McCallum (204) 786-4331
University of Manitoba Faculty of Dentistry & Winnipeg Dental Society 780 Bannatyne Ave. Winnipeg. R3C 0W3	Winnipeg, Manitoba	Application and Limitations of non-surgical Periodontal Surgery	Periodontics	March 22 1986	Lecture	Dr. Roger V. Stambaugh Ms. Donna M. Smith	Maximum of 300	TBA	GPs Hygienists	Pat McCallum (204) 786-4331
University of Manitoba Faculty of Dentistry & Winnipeg Dental Society 780 Bannatyne Ave. Winnipeg. R3C 0W3	Winnipeg, Manitoba	Current Trends in Removable Partial Denture Therapy	Prosthodontics	April 26 1986	Lecture	Dr. Paul S. Sills	Maximum of 300	TBA	GPs Specialists	Pat McCallum (204) 786-4331
University of Alberta Faculty of Dentistry Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	?? Posterior Composites??	Dental Materials and Devices	Jan. 11 1986	Lecture Demonstration Participation	Dr. S. Newman	Maximum of 45	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Calgary, Alta.	Resilient Denture Liners and Clinical Management of Prosthodontic Associated Pathology	Prosthodontics	Jan. 17 1986	Lecture	Dr. W. Harley	Open	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Alberta Faculty of Dentistry Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Resilient Denture Liners and Clinical Management of Prosthodontic Associated Pathology	Prosthodontics	Jan. 18 1986	Lecture	Dr. W. Harley	Open	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical and Periodontal Surgery, Part I	Periodontics	Jan. 24 1986	Lecture Demo. Participation	Drs. P. Schuller & M. Eggert	Maximum of 10	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Dental Considerations in Medically Compromised Patients	Oral Medicine	Jan. 25, 1986	Lecture	Dr. M. Plecash	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical and Periodontal Surgery Part II	Periodontics	Jan. 31 1986	Lecture Demo. Participation	Drs. P. Schuller & M. Eggert	Maximum of 10	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Emergencies in the Dental Office	Emergency Dentistry	Feb. 1 1986	Lecture	Drs. B.K. Arora and W. Tunis	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical and Periodontal Surgery, Part III	Periodontics	Feb. 7 1986	Lecture Demo. Participation	Drs. P. Schuller and M. Eggert	Maximum of 10	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8 (Co-Sponsored by the E.D.D.S.)	Edmonton Alta.	Effective Independent Practice in the 80s and Beyond	Practice Management	Feb. 7 and 8 1986	Lecture	Dr. Wilson Southam	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical and Periodontal Surgery Part IV	Periodontics	Feb. 14 1986	Lecture Demo. Partic.	Drs. P. Schuller and M. Eggert	Maximum of 10	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Calgary, Alta.	Nutrition and Dental Health	Nutrition	Feb. 28 1986	Lecture	Drs. R.L. Ellis and J.L. Sintes of Nashville, Tennessee	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Nutrition and Dental Health	Nutrition	March 1 1986	Lecture	Drs. R.L. Ellis and J.L. Sintes of Nashville, Tennessee	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Over the Counter Dental Care Products: Clinical Efficacy and Client Use	Dental Materials and Devices	March 15 1986	Lecture	Mrs. B.A. Zier, Mrs. J. Pimlott	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry, Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Pre-Prosthetic Molar Uprighting with Fixed Orthodontic Appliances	Orthodontics	March 21 and 22 1986	Lecture Demo. Partic.	Drs. K. Glover and W. Lobb	Maximum of 15	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023

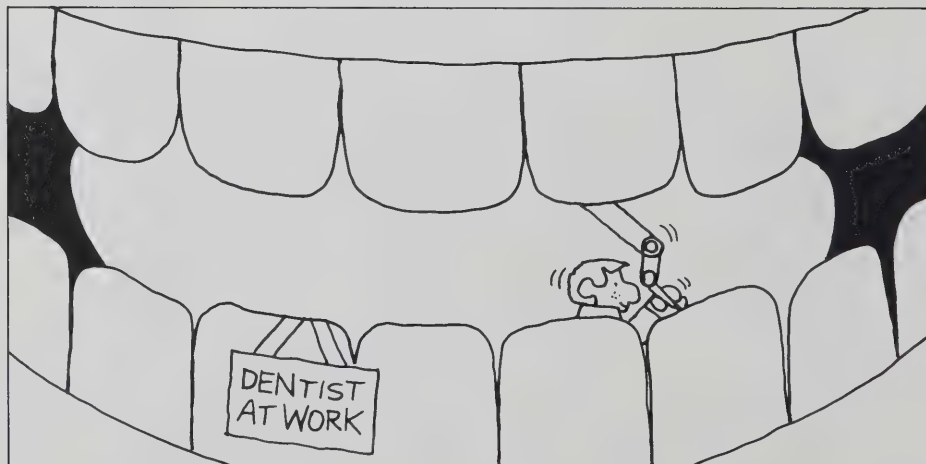
Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Marketing in the Eighties for Dental Offices	Practice Management	April 5, 1986	Lecture	Drs. R.L. Ellis and B. Preshing	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Lethbridge, Alta.	A Fresh Look at Endodontic Surgery	Endodontics	April 12 1986	Lecture	Drs. C. Hawrish and K. Zakariasen	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Anterior Bonding Techniques	Operative Dentistry	April 19 1986	Lecture Demo. Partic.	Dr. W. Meyers	Maximum of 45	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Medicine Hat, Alta.	Impacted 3rd. Molar and Other Minor Oral Surgery	Oral and Maxillo-facial Surgery	April 26, 1986	Lecture	Dr. B.K. Arora	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Complete Denture Prosthodontics for the General Practitioner. (Requisite for clinical course May 26-30)	Prosthodontics	May 2 and 3 1986	Lecture Demo. Partic.	Dr. W. Harley	Open	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	A Review of Clinical Gross Anatomy for Dentists	Basic Sciences	May 23 and 24 1986		Dr. G.H. Sperber	Open	TBA	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Conscious Sedation in Dental Practice	Pain Management	May 26 thru 30 1986	Lecture Demo. Partic.	Dr. B.K. Arora	Maximum of 16	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
University of Alberta Faculty of Dentistry/ Dentistry/ Pharmacy Building Edmonton, Alta. T6G 2N8	Edmonton Alta.	Clinical Treatment of an Edentulous Patient	Prosthodontics	May 26-30 1986	Lecture Demo. Partic.	Dr. W. Harley	Maximum of 6	TBA	GPs Specialists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall Vancouver, B.C. V6T 1W5	Vancouver, B.C.	Esthetic Alternatives in Fixed Prosthodontics: The Old and the New	Prosthodontics	Jan. 18 1986	Lecture	Dr. Stephen D. Campbell	Open	DDS \$95 Aux. \$50	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson (604) 228-2627
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall Vancouver, B.C. V6T 1W5	Vancouver, B.C.	Surgical-Prosthetic Rehabilitation of the Partially or Totally Edentulous Jaw	Oral Rehabilitation	Jan. 25 1986	Lecture	Dr. Peter Nelson & Dr. Ronald Shupe	Open	DDS \$95 Aux. \$50	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson (604) 228-2627
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall Vancouver, B.C. V6T 1W5	Vancouver, B.C.	Porcelain Systems in Dentistry	Dental Materials & Devices Operative Dentistry	Feb. 8 1986	Lecture	Dr. Bernard T. Williams	Open	DDS \$95 Aux. \$50	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson (604) 228-2627
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver, B.C.	Cash Management and Cash Flow Forecasting — Skills for the Active Dental Practice	Practice Management	Feb. 8 1986	Lecture Participation	John Noonan & Nick Adams-Aston	Maximum of 30	\$140	GPs Specialists Office Manager	Dr. Malcolm Williamson (604) 228-2627

Continuing Dental Education

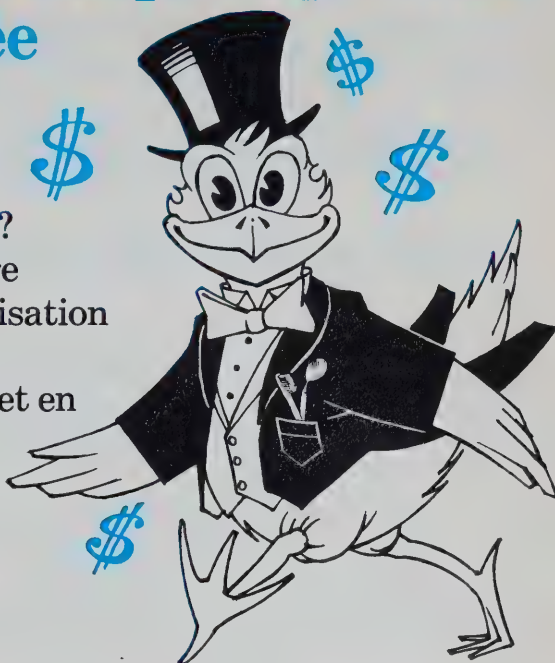
Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver, B.C.	Recent Advances and Innovations in Endodontics	Endodontics	Feb. 15 1986	Lecture	Dr. John Diggins (Coordinator)	Open	DDS \$95 Aux. \$50	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson (604) 228-2627
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vernon, B.C.	Annual Vernon Ski Seminar	Oral and Maxillo-facial Surgery Orthodontics Periodontics	Feb. 22 to 24	Lecture	Dr. Mathias Hourigan & Dr. Paul Witt	Maximum of 135	TBA	GPs Specialists Assistants Hygienists Other	Dr. Malcolm Williamson (604) 228-2627
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver, B.C.	The Future for Restorative Dentistry from Adolescence to Old Age	Dental Materials & Devices	March 8 1986	Lecture	Dr. John W. McLean	Open	DDS \$95 Aux. \$50	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson (604) 228-2627
Continuing Dental Education University of British Columbia 105-2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver, B.C.	Periodontics for the General Practitioner	Periodontics	March 22 1986	Lecture	Dr. Cary Galler & Dr. Gerald Pearson	Open	DDS \$95 Aux. \$50	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson (604) 228-2627



Faites d'une pierre deux coups et profitez d'une retraite plus élevée sans payer plus

Pourquoi attendre au 1^{er} mars 1987 pour verser votre cotisation de 1986 à votre RER ? Faites d'une pierre deux coups et versez votre cotisation de \$ 5 500 pour 1985 ET votre cotisation de \$ 7 500 pour 1986 avant le 1^{er} mars 1986. En versant deux cotisations simultanément et en continuant à cotiser tôt chaque année, vous pourrez vous retrouver avec \$ 50 000* DE PLUS au bout de 20 ans et \$ 140 000* DE PLUS au bout de 30 ans.

*sur la base de cotisations annuelles de \$ 7 500 à 10 %



Régime d'épargne retraite

Pour de plus amples renseignements ou pour toute question sur le RER contacter le Service planifications retraite du CDSPI, à n'importe quelle heure, sans frais :

1.800.268.54.18	Provinces de l'Ouest, provinces atlantiques et région de l'Ontario avec l'indicatif régional 807
1.800.268.34.11	Québec et Ontario, sauf pour la région avec l'indicatif régional 807
497.71.17	Toronto et environs

Régime administré par le Canadian Dental Service Plans Inc., 2, square Lansing, Bureau 600, Willowdale, Ontario M2J 4Z3.



Today I learned something new from an old friend.

You know, Thelma and I have been best friends since high school. Well, because Thelma is such a close friend, I thought I knew everything about her.

That is, until Thelma mentioned she'd just recently changed her will—to include a bequest for the Canadian Cancer Society.

Thelma said that even though she's always made annual donations to the Society, she wanted to do something extra. Because, she said, cancer can be beaten.

So then I thought, "Cancer *must* be beaten....and leaving a bequest is another good way I can help."

If you or your lawyer want to know more about the Society and what we do, telephone or write the Canadian Cancer Society.

CANADIAN
CANCER
SOCIETY

SOCIÉTÉ
CANADIENNE
DU CANCER



This space contributed as a public service.

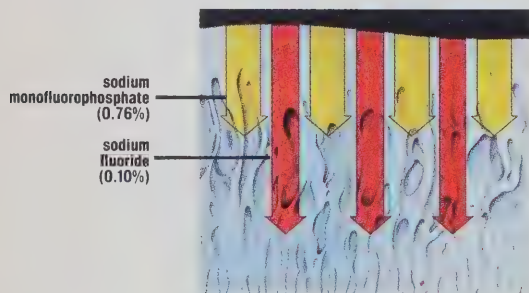
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean that these fluorides may work in different ways in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

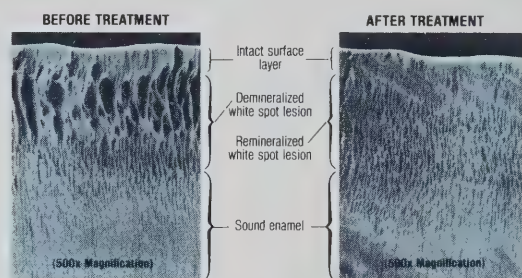
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



This more complete remineralization has been demonstrated in laboratory studies⁽⁷⁾ and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

Colgate with this two fluoride concept was tested in a three year clinical study.⁽⁸⁾ The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

Conclusion.

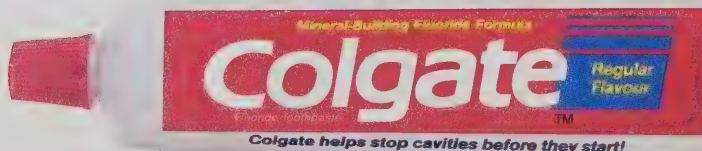
Colgate's two fluoride formula provides superior cavity protection to a single fluoride formula*: *Only Today's Colgate has a two fluoride formula.*

When you recommend Colgate you're recommending an innovative product—offering advanced and clinically tested cavity protection.

*Sodium monofluorophosphate (0.76%)

REFERENCES

1. Silverstone, L.M., Proc. Roy. Soc. Med., **65**, 906, 1972.
2. Koulourides, T., et al, Ann. N.Y. Acad. Sci., **131**, 771-775, 1965.
3. Von Der Fehr, F.R., et al, Caries Res., **4**, 131-148, 1970.
4. Levine, R.S., Brit. Dent. J., **138**, 249-253, 1975.
5. Slater, P.J., et al, Abstract No. 72, ORCA Conference, July 1982, Annapolis.
6. Hayes, H., et al, J. Dent. Res., **61**(4), 541, 1982.
7. Harvey, K., et al, J. Dent. Res., **61**, 243, 1982.
8. Hodge, H.C., et al, Brit. Dent. J., **148**, 201-204, 1980.



*Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are in our opinion, effective cavity preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

PARTNERS IN PREVENTIVE DENTISTRY.

Specialty Features

DENTAL MANPOWER SUPPLY AND DEMAND PROJECTIONS AND CHANGING DEMOGRAPHY AND DENTAL DISEASE

D.W. Lewis, DDS

CDA MANPOWER SYMPOSIUM PRESENTATIONS

On October 18-19, 1985, in Toronto, Ontario, the Canadian Dental Association held a Symposium on dental manpower, featuring speakers from across Canada, as well as some noted presenters from Britain, and the United States.

In this special section, the Journal presents the texts of the presentations made at the CDA Manpower Symposium, for the information of our readers.

Wherever possible, the texts presented here are verbatim. Any modifications made, were made by the presenters and not by the editors of the Journal.

Defining the Problem:

Presenters included:

Dr. Donald Lewis, University of Toronto

Dr. Rodney Moore, University of Washington

Dr. George Beagrie, University of British Columbia

ABSTRACT

The extensive Ontario Dental Manpower Study completed in 1981 was based on a supply and demand approach. Projections through to 1996 of both dental visits to be demanded and supplied under various policy, population projection, dental practice and student enrollment options were developed. The busyness of dentists and its important validating correlates, dental hygienist employment status and the public's dental utilization (including the impact of dental insurance) are reviewed. Using 1981 dental enrollment and population projections it was estimated that there would be an excess of dental visits supplied over those demanded of about 1.5 million visits in 1981 to 4.3 million visits in 1996. As one million visits is approximately equivalent to 300 dentists'

practices, dental enrollment reductions were suggested. In 1983 and 1984 enrollment at the two Ontario dental faculties was curtailed by about 21 per cent for a number of reasons, one of which may have been manpower oversupply. Because of the probable excess supply situation, it was further suggested that dental hygienist enrollment of the future might also need to be reduced; however, despite increases in lack of dentist busyness from 32 per cent in 1978 to 46 per cent in 1984, the dental community now feels more hygienists, not fewer, should be trained. This and other matters, including the very important manpower implication that population age and dental disease shifts have for dental manpower policy, are also discussed. The paper ends with a critical evaluation of certain aspects of an important recent paper on future Canadian dental treatment needs by Douglass and Gammon. Their concept of future effective demand or met need is challenged. The compounding effect of demographic and epidemiologic changes leading to greater personal and tooth survival is a most important consideration relative to future manpower planning. The need to examine carefully the most appropriate mix of dental personnel required in the future and for programs to enhance economic and geographic access to dental care by the elderly is emphasized.

As the title indicates, two different main subjects — supply and demand projections when studying dental manpower, and the implications that changing demography and dental needs have for future dental manpower in Canada are discussed. The first topic arises because a few years ago we completed in Ontario a comprehensive dental manpower study that was unique in its size, scope and approach. There are good and bad lessons for every province in what was done and found, and in the post mortem of its results. For the second topic — changing demography, needs and demands — changes in oral health status that have appeared frequently in the recent dental literature in both Canada¹⁻³ and the United

States⁴⁻⁶ will not be reviewed. Rather, some new insights into the dental manpower situation arising from our study, future demographic implications and the findings of a recent Canadian publication on this topic will be commented upon.

The Ontario Dental Manpower Study — Scope and Methods

This study began in 1978 and lasted two and one-half years. It was funded by a research grant from the Ontario Ministry of Health (DM 381).

There are many ways to study dental manpower,⁷ including methods that focus almost entirely on demands or needs or supply. Since the dental care system works largely through the interaction of the various factors determining patient demand for dental care with those affecting the supply of dental care services, we decided at the outset to study both demand and supply. Thus, over a two year period, four mail questionnaires to dentists, new dental graduates, dental hygienists and denture therapists were completed (incidentally, with a response rate of about 85 per cent), and three annual household interview surveys of representative samples of over 1000 adults were undertaken for us by the Gallup Poll each February starting in 1979. Using data from these surveys, a computer-based multiple regression projection or "production function" model of future dental manpower for Ontario under various practice and policy options (such as varying the dental office staff and equipment mix, the numbers of dental graduates and the migration rates of dentists) was developed. A separate model of demand for dental care was completed using the population projections recommended by the province's demographers combined with the dental visit experience revealed by the Gallup and other surveys. This demand model also allowed various assumptions, such as varying growth of dental insurance coverage and dental utilization by the elderly, to be incorporated.

The unit of supply and of demand employed was the dental visit which is really

not a good indicator since it is neither the unit of service demanded by the patient nor supplied or charged for by the dentist. It was recognized that one of many dental services can be provided at a single visit and that probably both the number and types of dental services rendered per visit have changed over time and will continue to do so. Therefore, the selection of the dental visit as the measure of demand and supply was not undertaken gladly but because of its ready availability from our own and others' research. The much better specific dental service and/or expenditure data simply were not available.

The Ontario Dental Manpower Study — Findings

Full details on methodology and the descriptive and analytical findings of all this research have been published in 16 different research reports and a summary report.⁸ From this massive amount of data only a few of the findings that seem particularly relevant to the focus of this Dental Manpower Symposium are presented.

Dentist Activity: Detailed information about Ontario dentists, their practice organization and activity were derived from surveys of all Ontario dentists in late 1978 and early 1979. One of the highlights of this survey was the documentation of dentists' practice activity. A summary of these findings follows.

- The median patient wait time for an appointment was 10.7 days for general practitioners and 15.6 days for clinical specialists.
- About 59 per cent of general practitioners felt they were as busy as they would like to be, while 9 per cent felt they were busier and 32 per cent less busy than they would like.
- Nearly one-half of the 1970-78 dental graduates were less busy than they liked, with about 70 per cent of 1976-78 graduates making such a claim.
- The Northeastern and Northwestern areas of Ontario displayed fewer "less busy" and more "busier" dentists than the other three planning areas of Ontario.
- The association between the dentists' perceived degree of busyness and appointment wait time for routine patients was strong and positive; nearly 90 per cent of the less busy dentists could have seen patients easily within a week, whereas these percentages for the two busier groups were much lower.
- Dentist busyness was also strongly related to patient visits since the less busy dentists had far fewer patient visits than their busier confreres; relative to the

"as busy as like" group the "less busy" group had about 15 fewer patient visits per week overall, and just over 20 fewer patient visits per week for dentists under age 30.

These last two points suggest that dentists' perceptions of their degree of busyness, despite the subjectivity of the question and probable variable interpretations by respondents, are valid indicators of practice activity for most dentists.

Decreased practice busyness as a sign of dental oversupply is a major concern among dentists today. However, to put the lack of busyness into historical perspective, previous surveys over ten years ago invariably indicated that a proportion of Ontario dentists felt they were less busy than they would like — nearly 10 per cent of all dentists and 20 per cent of new graduates. So perceptions of lack of busyness today are not unusual. It is the difference between these older figures and the much higher, newer ones that is the significant finding.

Interestingly, the less busy dentists had as many or more equipped dental operatories and nearly as many auxiliaries as their busier confreres. Thus, their perception of lack of busyness may be due, in part, to recognition that their practices have a good deal of unused capacity which is worrisome and frustrating to them, and inefficient. Since they are geared up to produce a higher volume of services, this may heighten such dentists' awareness of declining busyness.

Dental Hygienist Employment Status: Despite the anecdotal portrayal of the Ontario dental hygiene employment situation as disastrous at the time when this research was underway, the survey results based on replies from the dental hygienists themselves indicated a good employment picture. Some examples follow.

Employed hygienists were working 31 hours per week, on average, and recent graduates, 34 hours per week. Three-quarters had just one employment workplace, with less than two per cent having more than two workplaces. Of 189 respondents who were not working, only 15 per cent were currently seeking employment. Regarding job opportunities, 90 per cent of the most recent hygiene graduates covered by the survey, 1979, searched one month or less for their first positions.

The level of employment activity of dental hygienists in Ontario in 1979-80 did not support the notion of oversupply.

1980 Gallup Survey: About two-thirds of the 1106 adults interviewed reported that they had visited a dentist in 1979 for an overall average of 1.84 visits per person. Nearly one-half claimed that the primary motivation for their last visit was asymptomatic, i.e., a check-up or cleaning visit.

Nearly all had experienced short waiting times for their last dental visits. About eighty per cent claimed that in 1979 they or a family member had had no difficulty in getting a dental appointment (68 per cent) or had not needed one (12 per cent). Most (12.5 per cent) of the remaining 20 per cent with difficulties, cited problems in getting an appointment within a reasonable, or at a convenient time. Others claimed that dentists don't take new patients (nearly 3 per cent), that they had transportation problems getting to a dentist (nearly 2 per cent), or that no dentist was available (0.7 per cent).

Because of the extent of dental insurance at the time of the survey and its future growth and potential for affecting demand for dental care, the relationship between the self-reported dental visits of those interviewed who were insured and uninsured was studied in detail. Some of these findings follow.

- General profiles of those with and without dental insurance revealed (in brief) that the insured were younger, were in the three higher family income categories, had achieved more than a public school education, and lived in certain regions and community types.
- The insured reported higher dental utilization than the uninsured; details on this are presented later.
- For each family income group, the insured had greater dental utilization than the uninsured. For the two lowest income categories, the insured had from 21 per cent to 42 per cent more visits, on average, than the uninsured, however, these differences decreased as income increased. The positive insurance effect on utilization was greatest with the lowest income group.

Projected Supply Versus Demand Visits:

The supply projection model mentioned earlier, among other things, was able to estimate the number of licensed dentists in Ontario from the baseline year, 1978, through to 1996 according to a great number of options including variable migration and dental school enrollment numbers. The estimated annual number of dental visits these dentists could produce under various practice configurations and levels of dental hygienist employment were also computed by the model. Another researcher, working independently of the one developing the supply model to minimize bias, was projecting over the same time frame the annual number of dental visits that might be demanded by Ontarians under various policy options, for example, different growth rates of private dental insurance and programs to expand demand for dental care by the elderly.

Ultimately, a great number of systematic

comparisons between the supply and demand visit projections under various practice and policy scenarios were completed, with the size of the difference or gap between supply and demand being the critical factor. **Table 1** presents one set of typical projections when the 1978-79 ratio of hygienist to dentist hours of employment was kept constant but dental school enrollment was adjusted downwards so that the number of new graduates was decreased by 20 and 40 per cent starting in 1986. The figures in brackets in the table represent the differences between projected supply and demand in millions of visits. It is seen that all of these gaps are positive, indicating supply excess. The excess was anticipated to increase between 1981 and 1996 from 1.45 million to 4.32 million visits under a no change policy of dental enrollment or to 3.14 and 1.96 million visits in 1996 if enrollment cut-backs of 20 and 40 per cent, respectively, were undertaken. (As a reference point, it is noted that in 1978-79 one million patient visits was equivalent to about 300 dental practices.) Although not shown in this table, there were corresponding larger or smaller visit gaps between supply and demand if the level of employment of dental hygienists by dentists was increased or lowered.

While the magnitude of these projected supply excesses appeared large, their occurrence was not new and should have come as no surprise. The 1978-79 survey of dental practice suggested a shortfall for the "not busy enough" group of dentists of roughly three-quarters of a million patient visits per year (i.e., about 1000 dentists $\times$ 15 patients per week $\times$ 48 weeks).

The Dental Manpower Study's Concluding Commentary: The primary outcome of the research was the forecasting of future differences between the supply of and the demand for dental visits indicating that, over this period, there would be an increasingly large dental visit supply excess. It is important, however, to explore whether there were other signs or evidence of a supply excess since, understandably, there are a number of concerns and uncertainties in the projections of both supply and demand dental visits.

Although developed primarily to identify physician shortages, one good framework, after modification, for assessing whether there are signs of an excess of dental manpower has been developed by Lave, Lave and Leinhardt.⁹ They suggest six criteria. Two of their six main criteria are not highly recommended by Lave *et al.* However, it might be noted that one of these, the dentist (physician) to population ratio, had been improving in Ontario from one dentist to 2,427 persons in 1968, to one to 2,036 in

TABLE 1

Demonstration of the Discrepancy Between Projections of Dental Visit Demand and Supply

Projection Year	Mean Visit Demand (millions)	Yearly dentist grads. from 1986 on	Mean Visit Supply (millions) if Hygienist to Dentist Hours Ratio Same as '78-'79		
			Same	-20%	-40%
1981	15.14	mean supply:	16.59	—	—
		(supply-demand)	(1.45)		
1986	16.22	mean supply:	18.57	18.50	18.44
		(supply-demand)	(2.35)	(2.28)	(2.22)
1991	17.07	mean supply:	20.33	19.76	19.20
		(supply-demand)	(3.26)	(2.69)	(2.13)
1996	17.70	mean supply:	22.02	20.84	19.66
		(supply-demand)	(4.32)	(3.14)	(1.96)

1978. According to our projection model, the estimated ratio of one dentist to 1,938 persons in 1981 would improve further to one to 1,599 persons in 1996 if present dental graduation levels were maintained. Their third criterion termed "rate of return" is not directly applicable to our present consideration although its impact on the current greatly diminished dental school applications in the United States appears to be very strong.^{10,11}

Fortunately, more can be said about the three remaining criteria of Lave *et al.* — demand/supply differential, community satisfaction with the (dental) care system and the public's (oral) health status.

This research demonstrated that generally throughout Ontario, the supply of dental care exceeded the demand for it. This is a signal for an oversupply situation. Another aspect of the demand/supply differential criterion supporting the idea of an oversupply of dental personnel was a lack of so-called non-price rationing of dental services, exemplified by the occurrence of short patient waiting times for appointments, by a high proportion of dentists taking new patients, and by, in general, a good accessibility and availability of dental services. This research documented that 92% of Ontario dentists would take new patients, and that the public believed the current short waiting periods for appointments were more than reasonable. A large majority of the public reported that they had no dental accessibility problems. Further support for these indicators of community satisfaction arose from the response to a February 1981 Gallup survey suggesting that nearly eighty-eight per cent of those interviewed thought that both the technical quality and personal manners of their dentists were good. Only just over one per cent thought both the quality and manners were poor. Although only part of the recent improvement in oral health

TABLE 2

Projected Versus Actual Number of Licensed Dentists Residing in Ontario 1978-1984

Year	Projected No. Dentists	Actual No. Dentists*	Difference in Proj. — Actual
1978	4151	4151	0
1979	4267	4186	+81
1980	4390	4325	+65
1981	4503	4471	+32
1982	4619	4586	+33
1983	4735	4773	-38
1984	4849	4901	-52
1985	4960		
1986	5071		
1991	5621		

*Source: Royal College of Dental Surgeons of Ontario.

is associated with the treatment efforts of dental personnel, current relatively high treatment levels could not have been achieved without the presence of sufficient dental personnel.

This brief assessment using adaptations of the criteria of Lave *et al.* tended to support the view that there was sufficient and probably an oversupply of dental personnel in Ontario. Even accepting the arbitrary figure that the estimated supply excess of about one million visits in 1981 was tolerable at least from the public's perspective, and even allowing for the possible errors involved in making projections, this study demonstrated increasingly large future excesses of supply over demand dental visits, well above the 1981 figure. The size of these projected differences strongly indicated that policy decisions would have to be made soon to stimulate demand and/or

curtail supply sufficiently to ensure a tolerable supply-demand differential in the future.

As indicated earlier, the employment status of Ontario dental hygienists in 1979-80 was very good. However, our projections showed that dental hygienist employment would suffer in the future unless the number graduating were curtailed or unless dental hygiene of the future was to become very much a part-time occupation, an unlikely voluntary proposition.

And what about the number of dentists? The forecasts, even with decreased employment of dental hygienists by dentists, did not begin to demonstrate substantially diminished supply visit excesses until the number of dental graduates was reduced.

The Ontario Dental Manpower Study – Post-mortem

Since this study was completed nearly five years ago and our supply projections base-line year was 1978, there is an excellent opportunity to examine its policy outcomes and findings in the harsh light of reality.

In 1983, first-year enrollment at the dental faculty of the University of Toronto was reduced by nearly 20 per cent, from about

125 to 104 students per year. Similarly, in 1984 the dental class intake at the University of Western Ontario was reduced by 26 per cent, from about 54 to 40 students per year. Although other explanations exist, the findings of the study just described were at least an indirect factor in the decisions to reduce class intakes.

As Table 2 shows, the study's projected supply of licensed dentists residing in Ontario has proven to be quite accurate. The projected numbers of dentists are all within one per cent of reality after the second year when the actual 1978-79 net additions of 35 dentists suggest the R.C.D.S. data of 1978 are likely incorrect.

Our anticipation of a future large excess of dental hygienists has not proven to be correct, since today a shortage of dental hygienists is perceived in the dental community. It may prove helpful to others doing manpower studies to examine this apparent major discrepancy more closely. There was a great deal of completely the opposite concern being expressed by the dental community about an excess of dental hygienists prior to, during, and immediately after our study. To put things in perspective it is helpful to remember that well over 200 dental

hygienists per year had started to graduate in the mid to late 1970's from eight/nine community colleges in the province following the phasing-out of the only previous training program with 50 graduates per year at the University of Toronto in 1975.

Our prediction of a future excess of dental hygienists was based on the erroneous assumption that dentists, many of whom were not busy enough, would not choose to employ dental hygienists under such circumstances since they would prefer to do this work themselves in order to – in the economist's terminology – maximize their profits. Thus, we did not anticipate that dentists would increase their employment level of dental hygienists beyond that of 1978-79 in which 0.28 hours of hygienists were employed for each dentist's hour. Although recent R.C.D.S. data suggested that this ratio had not changed in 1984, Table 3 makes it clear that the supply of dental hygienists has increased rapidly and grown relatively more than that of dentists between 1978 and 1984 even in the face of increasing claims of lack of busyness.

Despite these anomalies, the clamour for even greater numbers of dental hygienists to be trained has begun. There is no clear-cut explanation of this, to some, irrational behaviour. Nevertheless, several observations are possible. One, if our recent calculation of no change between 1978 and 1984 in the ratio of dental hygiene to dentist hours worked is correct, then more hygienists must be working only part-time since the number of licensed dental hygienists, but not dentists, has nearly doubled in the same period (Table 3). Two, with dental caries declines, many children who now have no or little restorative work yet are still eligible for prophylaxis and topical fluoride applications, usually covered under dental insurance, may be getting more of this service than previously, especially from dental hygienists. (One might add that it will be interesting to see whether there is a downward shift in this practice now that three successive randomized clinical trials have shown conclusively that there is no need for a prior prophylaxis when topical fluorides are professionally applied.¹²) Three, the employment of dental hygienists even in a dental market characterized by the claims of nearly one-half of the dentists (46 per cent) that they are not busy enough, must be profitable or else some dentists are willing to sacrifice financial gains rather than substitute their own labour for the kind of work dental hygienists do.

Before leaving Table 3, it is of interest to note that although there was no formal agreement to reduce the numbers of dental hygienists, this, in fact, has occurred during the past four years.

TABLE 3

Change in "Busyness" and Relative Dentist and Dental Hygienist Supply in Ontario 1978-84

Year	Population/ Licensed Dentist*	No Licensed Dentists*	Percent "Less Busy than Like"	No. Licensed Dental Hygienists*	Annual Increase in Dental Hygienist Numbers	No. Dentists per Hygienist
1978	2036	41517	32%	1268	265	3.3
1979	2042	4186		1476	208	2.8
1980	2019	4325		1676	200	2.6
1981	1953	4471	37%	1853	177	2.4
1982	1896	4586		2041	187	2.3
1983	1826	4773	46%	2206	165	2.2
1984	1799	4901	46%	2386	180	2.1

*Source: Royal College of Dental Surgeons as of December 31 each year.

? This number is somewhat questionable since, if it is correct, a net gain of only 35 dentists between 1978 and 1979 would have occurred.

TABLE 4

Ontario Population Estimates: 1980 Versus 1985 Projections

Year	"Recommended" Projections in 1980	"Reference" Projections** in August 1985	Difference 1980-1985	Difference Between High-Low Projections of August 1985
1986	9174.6*	9162.5	+12.1	30.3
1991	9560.8	9614.2	-53.4	138.1
1996	9862.0	9963.2	-101.2	267.7
2001	10085.5	10236.2	-150.7	443.7
2006	—	10454.3	—	678.1

*millions

**Ontario Population Projections: 1984-2006. Ontario Ministry of Treasury and Economics. August 1985.

Because population growth is such a critical factor in any manpower study, another consideration is the extent to which population projections have changed since the time of our study. **Table 4** indicates that the population figures recommended to us in 1980 are generally low relative to today's "reference" estimates. Our study's underestimate of about 100,000 persons in 1996 according to today's projections is not large but may nevertheless represent the activity of about 25 dental practices we would have suggested are not needed. To emphasize the precarious nature of population projections, **Table 4** also shows the maximum difference in the five projections, each using different assumptions, recently published in Ontario; the difference of 267,000 persons between the high and low projections of 1996 presents the manpower researcher with considerable potential for error if the wrong set of population projections are selected.

Demand, Need and Demographic Considerations

This section consists of a number of points which have direct implications for dental manpower planning in Canada.

Demands for Dental Care: **Table 5** presents the latest data on the utilization of dental services. About 50 per cent of Canadians made at least one dental visit in 1978-79, although this overall figure masks rather big regional variations. The familiar patterns of higher female and higher child and adolescent dental utilization are apparent, along with the traditional very low utilization of the elderly (23 per cent). Although not shown here, it is important to stress that Canadian dental utilization has slowly but regularly increased over the past 30 years.

As shown in **Table 6**, the per cent of adults making any dental visits and the mean number of annual visits by Ontario adults is directly related to increasing family income. This table also indicates that the per cent of those going to the dentist at all who are not motivated by dental problems is strongly and directly associated with income. Another major characteristic of most dental utilization studies is evident in that the variation among user mean visits by income level is very low. Dental user means going back many years in Canada and, particularly in the United States, have shown little variation, although the percentage of persons acquiring dental services has slowly increased. The lesson seems to be that once access is achieved the extent of usage is similar, on average; thus, efforts at encouraging initial access are extra important.

Impact of Dental Insurance: As of January 1982 about 56 per cent of Canadians had

some form of third party dental coverage — private insurance or governmental and social assistance programs. The somewhat negative earlier studies as to insurance's impact in the United States have been replaced by more recent ones suggesting not only that dental insurance stimulates dental utilization and the receipt of more costly care items but also improves the oral health status of the insured under 35 years of age.^{13,14} Such detailed Canadian research is lacking; however, the positive impact of dental insurance on dental utilization is evident from our adult Ontario Gallup surveys. **Table 7** by Bullen¹⁵ demonstrates this. All the utilization indicators for the insured adults are higher, from 24 to 38 per cent higher for "all visits" and 42 per cent higher for "all expenditures". It is particularly interesting that nearly 82 per cent of the insured adults made at least one dental visit over the two year period, 1979-80.

Since other factors that are positively related to having dental insurance may independently influence dental utilization, Bullen completed an analysis in which these factors were controlled by appropriate

statistical adjustment procedures.¹⁵ The resultant "pure" effect of greater dental visits by the insured remained, although its impact was reduced by over one-half to 14 per cent more visits.

Dental Utilization by the Elderly: Bullen also demonstrated two points regarding dental care use by the elderly which may have profound implications for future dental manpower¹⁵ demands. As seen in **Figure 1**, she first showed that much of the decline in dental care visits with age could simply be explained by the extremely low visits of denture patients, regardless of age. The drop in dental visits of the remaining older dentate persons is then much lower. Secondly, using a more complex multivariate analysis in which the effects of other variables related to age — such as family income and dental insurance — could be controlled, she showed that age *per se* had only a low and statistically insignificant effect on dental service usage (**Figure 2**).

Dental Need and Demographic Changes: The decline in dental caries and greater tooth retention in children and young adults in

TABLE 5

Per Cent of Persons Visiting the Dentist Once or More in Last 12 Months by Age, Region and Sex, Canada 1978-79

Age	% Male	% Female	Region	% Male	% Female
<5	19	22	Atlantic	41	44
5-9	75	75	Quebec	41	46
10-14	74	78	Ontario	55	58
15-19	58	66	Prairie	49	52
20-24	49	58	British Columbia	53	58
25-44	50	56	Canada	48	52
45-64	40	41			
65+	23	23			

Source: Canada Health Survey 1981

TABLE 7

Dental Visits and Expenditures by Dental Insurance Status

Measure of Utilization	Uninsured	Insured
1979 — All	1.38	1.90
Visits — Users	2.33	2.57
Utilization Rate	59.3%	73.9%
1980 — All	1.52	1.88
Visits — Users	2.76	2.76
Utilization Rate	55.0%	68.1%
1980		
Expenditures — All	\$75.57	\$107.36
— Users	\$140.80	\$161.18
Utilization Rate	53.7%	66.6%
1979 +		
1980 — All	2.90	3.76
Visits — Users	4.27	4.61
Utilization Rate	67.9%	81.6%

TABLE 6

Percent of Ontario Adults Visiting a Dentist and Average Number of Visits by Income Class during 1978-79

Income	Total*	Percent Visiting Asymptomatically**	Average Number of Visits	
			All	Users
< 10,000	45	55	1.02	2.28
10,000-14,999	58	68	1.36	2.33
15,000-19,999	62	66	1.46	2.36
20,000+	73	80	1.82	2.51

Source: Lewis, D.W. and Saunders, V.J. Adult Utilization of Dentists in Ontario, 1978-79.

*Total is 60% of all adults. In a later survey covering 1979 and 1980, 65% of adults reported visiting in 1980 and 77% reported visiting in the two-year period 1979 and 1980.

**These per cents represent the proportion of those who visited at all, as shown in the "total" column, who visited for a dental check-up or cleaning, etc. Thus, the per cent of the low to high income groups visiting asymptotically is the product of the two columns or 25%, 39%, 41% and 58%, respectively.

developed countries, including Canada, have been well documented recently and will not be repeated here.¹⁻⁶ Several less well known aspects, however, will be mentioned. The main characteristic of the caries decline is not the reduced mean DMFT values which, nevertheless, have dropped by about 33 to 40 per cent in children at various Canadian sites and 21 per cent in Canadian army recruits over the past decade or so. The large decreases in the missing (M) component of DMFT and in smooth surface decay, and the large increase in the per cent of children without any decay experience are more noteworthy. For example, on this latter point, in Ontario in 1983-84 the percentage of children free of any decay or restorations in their permanent teeth (DMFT = 0) for ages 7, 9, 11 and 13 years was about 80 per cent, 55 per cent, 38 per cent

and 25 per cent, respectively. In British Columbia in 1980 just over 30 per cent of 9 year-olds and 10 per cent of 13 year-olds were free of permanent tooth decay. In the four Atlantic provinces these figures in 1983 were about 21 per cent for 6-7 year-olds and 7 per cent for 13-14 year-olds. For future planning it is important to determine whether these declines will continue, level off or reverse. Most analysts do not believe the declines are cyclical which would suggest caries eventually will rise. It is likely that the caries decline will ultimately level off when some low threshold is reached. We have already observed a levelling off of mean DMFT scores over the past five years in children of certain ages who were continuous residents of Toronto.¹⁶

The earlier, traditional belief that much of the past effort spent on the treatment of den-

tal caries will merely shift to periodontal care now that more dentitions are being saved due to the caries declines, may not be completely true. Although, admittedly there has been little advanced periodontal care provided in the past, more careful examination of the periodontal severity scores has led analysts to question the needed extent of this shift. Examination of the periodontal scores determined by Hunt and others, for example, in one of the few Canadian adult community surveys, shows that nearly 90 per cent of the 25 to 44 year-old adults had some periodontal disease.¹⁷ However, just about 35 per cent had scores high enough to suggest that professional intervention was needed. Thirty-five per cent of adults is still a lot of people but it is far lower than 90 per cent!

The combined and compounding effect of demographic and epidemiologic changes leading to greater personal and tooth survival is probably the most important consideration in relation to future dental manpower needs and present manpower policy. There is much speculation about this but some points are evident. Our population is growing slowly. In the year 2001 there will be about three million more Canadians than today and nearly 40 per cent of them will have been born after the start of the caries decline just discussed. It seems a reasonable speculation that, as these later birth cohorts age, they will retain more teeth and have fewer and less severe carious lesions, better attitudes and knowledge about dental health and dental care, and a better set of experiences with, and accessibility to the dental care system that previous generations of Canadians had. However, estimates of their periodontal status relative to today's adults are uncertain. As our population ages and retains more teeth, the findings of Bullen indicate that factors other than age — such as having dentures, less income and dental insurance — have dampened the elderly's demand in the past, should prove helpful if we are willing to initiate and support programs to enhance economic and geographic access to dental care for them.

The most appropriate types of providers needed to meet the future burden of dental illness experienced by large numbers of people, will have to be considered carefully. Apparently much of the needed care in the future will not be of the heavy, technically sophisticated variety; that is, with some of the elderly and many children, prophylactic, preventive type care may be all that is required to maintain in them a good oral health status. Such care is now provided primarily by dental hygienists.

Douglass and Gammon have recently completed detailed projections of the future need for restorative and periodontal treat-

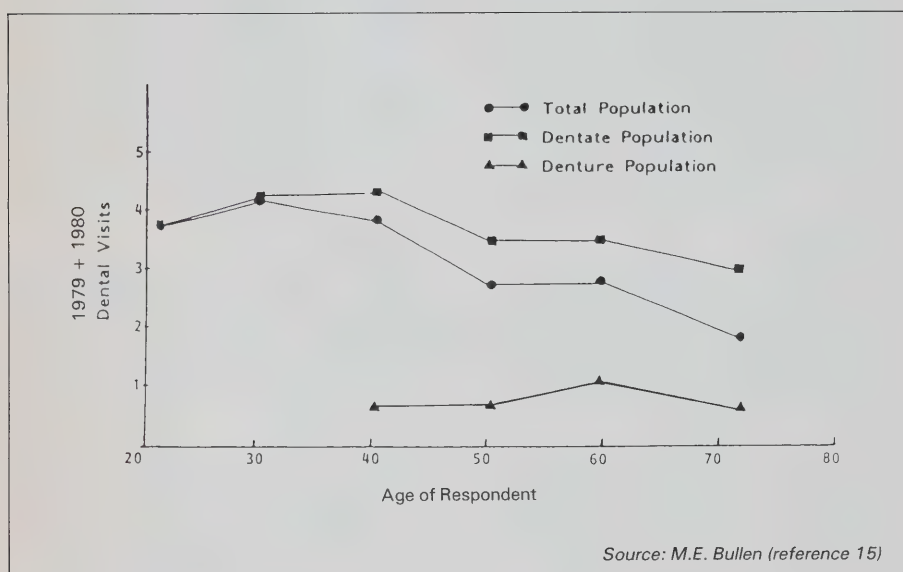


Figure 1 Age-related Dental Utilization in Ontario Adults by Denture Status

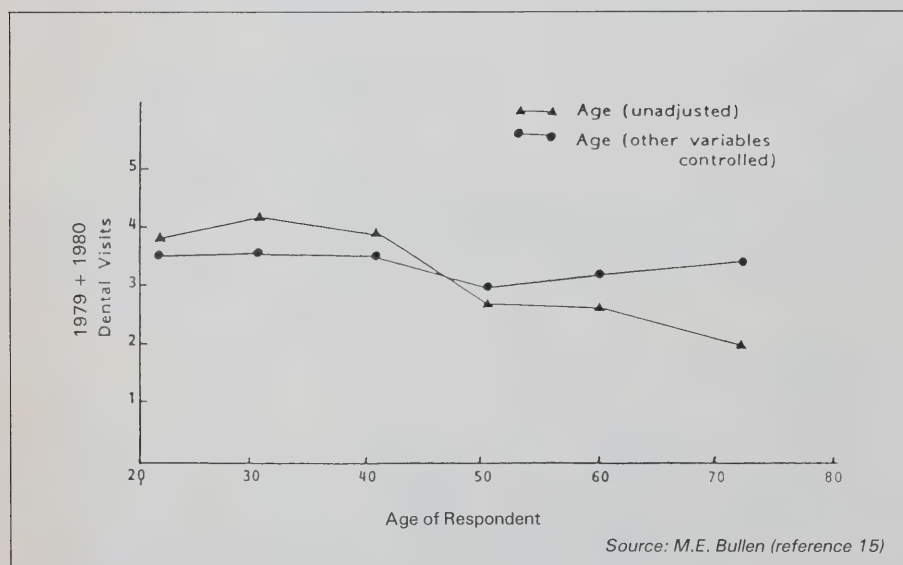


Figure 2 Age-related Dental Utilization in Ontario Adults — Adjusted and Unadjusted

ment as the population grows and its age and dental disease distributions shift.¹⁸⁻²⁰ Based on their similar work in the United States,^{18,19} they demonstrated that the gap between "unmet" and "met" dental treatment need will not narrow over the next fifteen years.²⁰ They showed, using some Canadian information and substituting prevalence and practice data from the United States when necessary, that the total potential market for dental treatment (met plus unmet need) will grow from about 40.3 million hours in 1976 to 64.1 million hours in 2001, mainly due to population growth and the projected increased number of dentate adults. Furthermore, they estimated that about 8.8 million hours of operative and periodontal treatment (met need), or just 22 per cent of the total market, was effectively demanded in 1976. In 2001 they predicted that 22.9 million hours of these services (met need), or 36 per cent of the total market, would be effectively demanded. Because of the growth in estimated total treatment hours needed in the year 2001 and the larger than 1976 but still relatively low 36 per cent of met need relative to the total potential market, Douglass and Gammon suggest great caution in manpower policy decisions involving reduced dental enrollment — surely wise advice at any time.²⁰

Because of their paper's implications and likely role as an important policy instrument, the methods and findings of Douglass and Gammon should be examined carefully.²⁰ We shall begin that process here by looking at three possible problems that are quite separate from those possibly arising due to data limitations and assumptions they made about future disease epidemiology in Canada.

First, it is noteworthy that unmet need represents prevalence or accumulated backlog of disease in 2001 and not just new disease increments or incidence in the preceding year. Douglass and Gammon had no option here as only prevalence data for determining their estimates are available. Although this does not detract from the impact of their message that unmet treatment needs may grow, not diminish, it is important to realize that if all the backlog were treated, the remaining annual incidence would likely *underwhelm* the profession's annual treatment capacity. While treatment of all the backlog would be unusual, it is conceivable that the enlarged dental manpower pool near the turn of this century will have the potential to eat away fairly large chunks of the backlog each year over a period of many years. Eventually, then, *need* more closely approaches *incidence* for the majority of the population seeking dental care.

Second, it is important also to observe that the total potential market as projected by Douglass and Gammon for 2001 is the sum of two parts that are treated as being independent — unmet need just described plus met need described more fully below but which essentially is the hours of care that future dental manpower can provide. Surely there is some dependence between these two components, such that they are not additive. For instance, it is difficult to believe that the total potential market for dental care in Canada would rise by nearly 23 million hours to 87 million hours (64 + 23) if the projected manpower were, for the sake of argument, doubled in 2001. In that unlikely event, in real terms, the new excess manpower, if it were busy at all, would sharply cut into the unmet need component. Thus, the total potential market does not consist of the two independent additive components described by Douglass and Gammon.

A third more serious problem for the dental manpower planner emerges when the calculation of met need is examined. Douglass and Gammon determined **met need** as the number of hours involving specific dental services that the projected number of dentists and dental hygienists could provide in any given year (see JCDA, Aug. '85 for details).²⁰ For example, in 1976 8.8 million hours were "effectively demanded". In 2001 22.9 million hours for operative and periodontally associated services would be "effectively demanded" — another term used by the authors for met needs. However, one of the assumptions posited by Douglass and Gammon, in relation to projections of effective demand in 2001, stated that those with dental disease will perceive their need and effectively demand these services at least at their 1976 rates. Based on an approximate Canadian population of 23 million persons in 1976 and an accepted projection of 29 million in 2001, the per capita consumption (effective demand) was 0.38 hours in 1976 and would be 0.78 hours in 2001. Thus, their assumption that demand in 2001 by those with disease would *at least* equal the 1976 rate has certainly been fulfilled since the 2001 per capita demand would be double that of 1976. This represents a large and possibly improbable increase in demand. It makes their findings worrisome and of questionable utility for dental manpower planners in Canada.

The reason for my concern is that what Douglass and Gammon predict as met need or effective demand in 2001 is really not that at all. They merely determined the potential capacity, in treatment hours, of the projected number of dentists and dental hygienists in the year 2001 to provide the

indicated services based on 1976 practice experience. However, if twice the number of dental personnel had been trained and were available relative to the number actually trained and projected for the year 2001, then effective demand or met need would be doubled! This is not what effective demand is. Their data do not and were not intended to say anything about whether there will be sufficient demand to fulfill the profession's capacity to provide the specified dental services in the year 2001, whatever our manpower supply is then. This is unfortunate as this is exactly the kind of estimate needed today. It is desirable to know how busy Canada's future practitioners will be, not how much dentistry they could perform *if* they were fully busy.

My sense of things is that the major needed increase in effective demand — a doubling of 1976 — that the Douglass and Gammon findings imply is unlikely to occur by natural evolution, since a good part of higher future demand must be derived from older adults on fixed and shrinking incomes. This will only be achieved through focussed programmatic initiatives.

In summary, the optimistic findings of Douglass and Gammon based on need can be interpreted in different and somewhat opposite ways. This, indeed, is further support for their admonition to exercise great caution in dental manpower policy decisions. Much must soon be done to ensure that their important contribution of estimates of high unmet dental needs in 2001 is converted into the demands for dental care that will be essential to avoid dental over-supply in the future.

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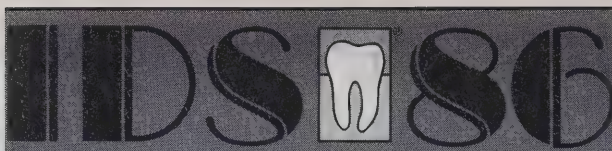
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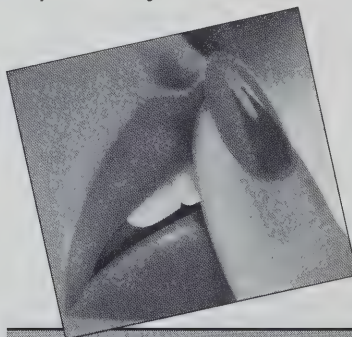
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JOINT CONFERENCE ON PRELICENSURE

CDA • NDEB • CFDE

DATE

February 24 and 25, 1986

LOCATION

Chateau Champlain Hotel, Montreal

BACKGROUND

In September 1984, the CDA Board of Governors approved in principle a recommendation from the Council on Education and Accreditation, "that the Canadian Dental Association sponsor, through the Council on Education, in Consultation with the Council on Student Affairs, a two-day conference with workshops on the precicensure concept." The Board of Governors asked the Ad Hoc Committee on Mandatory Precicensure to act as the planning committee and the enclosed program was developed.

GOAL

The overall goal of the Conference on Precicensure is to provide a forum for discussion of the concept of a mandatory precicensure period for graduates who have completed a program in undergraduate dental education.

IMPORTANCE

Clinical preparation of dental graduates within the educational framework is a matter of vital concern to the profession, the accreditation process and licensing authorities. Financial sponsorship for the conference on precicensure is being provided by the Canadian Dental Association, the National Dental Examining Board and the Canadian Fund for Dental Education. Such sponsorship demonstrates the profession's concern with the evolution of dental education with respect to major changes in the patterns of dental disease now being experienced. The conference is accordingly of interest to the wider dental community as well as dental educators.

REGISTRATION

Speakers and resource persons identified for the conference will have their direct expenses for travel and accommodation supported within CDA policy and will receive appropriate claim forms.

Invited registrants will be responsible for their own travel, accommodation and miscellaneous expenses.

Conference registration will be limited. For those attendees who are not speakers a registration fee of \$30.00 will be charged. This will include admission to the Reception Monday evening and lunch on Monday, February 24th and Tuesday, February 25th. A registration form is attached for completion and submission by January 17, 1986 to:

Mrs. Lorraine Emmerson
Precicensure Conference Secretary
Canadian Dental Association
1815 Alta Vista Drive
OTTAWA, Ontario K1G 3Y6

JOINT PRELICENSURE CONFERENCE

Monday, February 24, 1986 A.M.	Overview <i>Chairman — Dr. Kenneth Bentley Dean, Faculty of Dentistry, McGill University</i>	10:30 10:45	Coffee Break The Legal Profession: A historical review of developments re licensure.
9:00 A.M.	Introduction and Opening Remarks <i>Conference Chairman — Dr. G.S. Beagrie, Dean, Faculty of Den- tistry, University of British Columbia, Vancouver</i>	11:15	<i>Dr. R. Ianni, President, University of Windsor</i> The Dental Profession: A historical review of developments re licensure and review of current arrangements for testing and licensure.
9:20 A.M.	International Trends in Oral Health: <i>Dr. D. Barmes, Chief, Oral Health WHO, Geneva</i>		<i>Dr. W. Dunn, Professor, Division of Community Dentistry, Faculty of Dentistry, University of Western Ontario</i>
10:00	The Medical Profession: A historical review of developments re licensure. <i>Dr. L. Wilson, Dean of Medicine, Queen's University, Kingston</i>	12:00 – 2:00 P.M. Monday February 24, 1986 P.M.	Lunch <i>Chairman — Dr. Kenneth Bentley Dental Education and Precicensure</i>

2:00 P.M. Dental Schools and Curriculum
*Dr. R. Brooke, Dean, Faculty of Dentistry
University of Western Ontario*

2:20 Relationship of Dental Research and Prelicensure
*Dr. A.R. Ten Cate, Dean, Faculty of Dentistry
University of Toronto*

2:40 Effect on Students and their Teaching
*Dr. D. Beck, Richmond, B.C.
Miss Liliane LeSaux, University of Western Ontario*

3:00 Coffee Break

3:15 The Harvard Experience
*Dr. Paul Goldhaber
Dean, Faculty of Dentistry
Harvard University*

3:45 The Swedish Experience

4:15 Question Period

7:00 Reception

Tuesday, February 25, 1986
A.M. Relationship of Prelicensure to General Practice
*Chairman: Jean Paul Lussier,
Former Dean, Faculty of Dentistry, University of Montreal*

9:00 A.M. Benefits and Implications for the Public
*Mr. W. Wilton, Niagara Institute
Niagara-on-the-Lake, Ontario*

9:20 Effect on General Practice
*Dr. B.W. Holmes, President
Canadian Dental Association*

9:40 Prelicensure as an Instrument for Maintenance of Standards
*Dr. E. Ambrose, Former Dean,
University of Saskatchewan,
Saskatoon*

10:00 Prelicensure & Other Professional Concerns
*Dr. A. Schwartz, Dean,
Faculty of Dentistry
University of Manitoba, Winnipeg*

10:20 Coffee

10:30 Workshops on Education & Practice
*Leaders:
Dr. Marcia Boyd, Vancouver
Dr. Dan MacIntosh, Halifax
Dr. A. Schwartz, Winnipeg
Dr. J. Wright, Ottawa
Mr. Bill Wilton, Niagara*

12:00 Workshops conclude

12:00 - 2:00 Lunch - Oral Health: A Government Viewpoint

Tuesday, February 25, 1986
P.M. Plenary & Workshops Implementation Procedures
*Chairman - Dr. Jean-Paul Lussier,
Montreal*

2:00 P.M. Placement and Location of Graduates
*Dr. Kenneth Bentley, Dean,
Faculty of Dentistry, McGill
University, Montreal*

2:20 Examination and Procedures for Licensure
*Dr. H. Dick, Chairman, Division of Oral Pathology, Faculty of Dentistry, University of Alberta,
Edmonton*

2:40 Workshops on Implementation
*Leaders:
Dr. Marcia Boyd, Vancouver
Dr. Dan MacIntosh, Halifax

Dr. J. Wright, Ottawa
Mr. Bill Wilton, Niagara*

3:15 Workshops conclude and reporters prepare for plenary session during Coffee Break

3:30 Plenary session to receive Group Leader Reports

4:00 Chairman's Comments, Summary and Recommendations

5:00 Conference concludes.

REGISTRATION FORM
JOINT CONFERENCE ON PRELICENSURE
CDA - NDEB - CFDE
February 24-25, 1986
Chateau Champlain Hotel, Montreal

NAME: _____

ADDRESS: _____

AFFILIATION: _____

CATEGORY OF REGISTRATION

I shall be attending the prelicensure conference as:

- ☐ Speaker
☐ Invited registrant
☐ Resource person
☐ Other

HOTEL RESERVATIONS

- ☐ I wish to have hotel reservations at the Chateau Champlain Sunday, February 23rd through Monday, February 24th (inclusive). Room rates \$75.00 single; \$90.00 double
☐ Please check if these are to be guaranteed for late arrival.

DEADLINE FOR REGISTRATION JANUARY 17, 1986

Registration fee \$30.00. Cheques should be made payable to: Canadian Dental Association

MAIL COMPLETED FORMS TO: Mrs. Lorraine Emmerson, Prelicensure Conference Secretariat, Canadian Dental Association, 1815 Alta Vista Drive, Ottawa K1G 3Y6

CONFÉRENCE CONJOINTE SUR LA PRÉAUTORISATION D'EXERCER

ADC • BNEDC • FCED

DATE

les 24 et 25 février 1986

LIEU

l'hôtel Château Champlain, à Montréal

PRÉLIMINAIRES

En septembre 1984, le Conseil d'administration de l'ADC a agréé en principe une recommandation du Conseil de l'éducation et de l'agrément voulant "que l'Association dentaire canadienne commandite, par l'entremise du Conseil de l'éducation et de concert avec le Conseil des affaires étudiantes, une conférence de deux jours comprenant des ateliers et portant sur la pré-autorisation d'exercer." Le Conseil d'administration a demandé au Comité spécial pour imposer la pré-autorisation d'exercer d'agir à titre de comité organisateur et c'est ainsi que le programme ci-joint a été élaboré.

OBJECTIF

La Conférence sur la pré-autorisation d'exercer a pour but de constituer une tribune pour débattre l'idée d'imposer une période préalable à l'autorisation d'exercer aux diplômés qui ont terminé un cours de médecine dentaire au niveau universitaire.

IMPORTANCE

La préparation clinique des diplômés dentaires durant les cours est une question d'intérêt vital pour la profession, les ordres professionnels et le processus de l'agrément. La Conférence sur la pré-autorisation d'exercer est commanditée par l'Association dentaire canadienne, le Bureau national d'examen dentaire du Canada et le Fonds canadien pour l'enseignement dentaire. Un tel geste démontre que la profession s'intéresse au développement de l'enseignement dentaire face aux changements importants qui ont lieu touchant l'évolution des maladies dentaires à laquelle on assiste présentement. C'est pourquoi la conférence intéresse tout autant la communauté dentaire en général que les enseignants dentaires.

INSCRIPTION

Orateurs et personnes-ressources choisis pour la conférence verront leurs dépenses directes pour le gîte et les déplacements couvertes par l'ADC et recevront, comme il se doit, des demandes d'indemnité.

Les participants invités devront assumer eux-mêmes leurs déplacements, leur gîte et leurs autres dépenses.

Le nombre des inscriptions est limité. Pour les participants autres que les orateurs, il en coûtera 30\$ pour s'inscrire. Cette somme couvrira la réception de la soirée du lundi ainsi que les déjeuners des lundi et mardi, 24 et 25 février. Vous trouverez ci-joint un formulaire d'inscription qu'on vous prie de remplir et de retourner pour le 17 janvier 1986 à:

M^{me} Lorraine Emmerson
Secrétaire de la Conférence
sur la pré-autorisation d'exercer
L'Association dentaire canadienne
1815, promenade Alta Vista
Ottawa (Ontario) K1G 3Y6

CONFÉRENCE SUR LA PRÉ-AUTORISATION D'EXERCER

Lundi 24 février 1986	séance plénière du matin <i>Président: le Dr Kenneth Bentley doyen de la Faculté de médecine dentaire de l'Université McGill</i>	10h45	Le droit: un aperçu historique touchant l'élaboration des permis d'exercer <i>le Dr R. Ianni, président Université de Windsor</i>
9h00	Introduction et présentations <i>Modérateur: le Dr G.S. Beagrie, doyen de la Faculté de médecine dentaire de l'Université de la Colombie-Britannique (Vancouver)</i>	11h15	La profession dentaire: un aperçu historique touchant l'élaboration des permis d'exercer et une révi- sion des dispositions actuelles touchant les examens et l'octroi des permis <i>le Dr W. Dunn, professeur, Division de la dentisterie commu- nautaire, Faculté de médecine dentaire, Université Western Ontario</i>
9h20	Tendances internationales en santé buccale <i>le Dr D. Barmes, directeur de la Santé buccale, OMS, Genève</i>		Déjeuner
10h00	La profession médicale: un aperçu historique touchant l'élaboration des permis d'exercer <i>le Dr L. Wilson, doyen de la Faculté de médecine de l'Univer- sité Queen (Kingston)</i>	12h00-14h00 Lundi, 24 février 1986	séance de l'après-midi <i>Président: le Dr Kenneth Bentley L'enseignement dentaire et la pré-autorisation d'exercer</i>
10h30	Pause-café		

14h00 Écoles dentaires et programme de formation
le D^r R. Brooke, doyen de la Faculté de médecine dentaire Université Western Ontario

14h20 Rapports entre la recherche dentaire et la pré-autorisation d'exercer
le D^r R. Ten Cate, doyen de la Faculté de médecine dentaire Université de Toronto

14h40 Conséquences pour les étudiants et leurs études
*le D^r D. Beck, de Richmond (Colombie-Britannique)
M^{me} Liliane LeSaux, Université Western Ontario*

15h00 Pause-café

15h15 L'expérience de Harvard
D^r Paul Goldhaber, Doyen Faculté de médecine dentaire, Université Harvard

15h45 L'expérience suédoise

16h15 Période de questions

19h00 Réception

Mardi, 25 février 1986 séance de l'avant-midi
Rapports entre la pré-autorisation d'exercer et l'exercice général
Président: le D^r Jean-Paul Lussier, ancien doyen de la Faculté de médecine dentaire de l'Université de Montréal

9h00 Avantages et conséquences pour le public
M. W. Wilton, Institut Niagara Niagara-on-the-Lake (Ontario)

9h20 Conséquences pour l'exercice général
le D^r B. W. Holmes, président l'Association dentaire canadienne

9h40 La pré-autorisation d'exercer comme outil pour le maintien des normes
le D^r E. Ambrose, ancien doyen Université de la Saskatchewan (Saskatoon)

10h00 La pré-autorisation d'exercer et autres questions professionnelles
le D^r A. Schwartz, doyen de la Faculté de médecine dentaire Université du Manitoba (Winnipeg)

10h20 Pause-café

10h30 Ateliers sur l'enseignement et l'exercice
Animateurs:
*le D^r Marcia Boyd (Vancouver)
le D^r Dan MacIntosh (Halifax)
le D^r A. Schwartz (Winnipeg)
le D^r J. Wright (Ottawa)
M. W. Wilton (Niagara)*

12h00 Fin des ateliers

12h00-14h00 Déjeuner — la santé buccale: une opinion gouvernementale

Mardi, 25 février 1986 séance plénière et ateliers de l'après-midi
Mise en vigueur
Président: le D^r Jean-Paul Lussier (Montréal)

14h00 Placement des diplômés
le D^r Kenneth Bentley, doyen de la Faculté de médecine dentaire, Université McGill (Montréal)

14h20 Examens et procédures pour la pré-autorisation d'exercer
Le D^r H. Dick, président, Division de la pathologie buccale Faculté de médecine dentaire, Université de l'Alberta (Edmonton)

14h40 Ateliers sur la mise en vigueur
Animateurs:
*le D^r Marcia Boyd (Vancouver)
le D^r Dan MacIntosh (Halifax)

le D^r J. Wright (Ottawa)
M. W. Wilton (Niagara)*

15h15 Fin des ateliers et préparation des rapports durant la Pause-café

15h30 Séance plénière: présentation des rapports par les animateurs des ateliers

16h00 Commentaires, résumé et recommandations du président

17h00 Fin de la conférence.

FORMULE D'INSCRIPTION
CONFÉRENCE CONJOINTE SUR LA PRÉ-AUTORISATION D'EXERCER
ADC - BNEDC - FCED
les 24 et 25 février 1986
Hôtel Château Champlain de Montréal

NOM: _____

ADRESSE: _____

AFFILIATION: _____

CATÉGORIE

Je participerai à la conférence à titre de:

- ☐ orateur ☐ personne-ressource
☐ participant invité ☐ autre

RÉSERVATION D'HÔTEL

- ☐ Je désire réserver une chambre au Château Champlain pour les nuits des 23 et 24 février (dimanche et lundi — départ mardi). Prix: chambre simple — 75\$, chambre double — 90\$.
- ☐ Veuillez cocher ici si vous prévoyez arriver tard et désirez que votre réservation soit confirmée.

DATE LIMITE D'INSCRIPTION: le 17 janvier 1986.
Inscription: 30\$. Prière de libeller votre chèque à l'Association dentaire canadienne.

VEUILLEZ RETOURNER CE FORMULAIRE À:
M^{me} Lorraine Emmerson, Secrétaire de la Conférence sur la pré-autorisation d'exercer, l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa, Ontario, K1G 3Y6.

Specialty Features

DENTIST UNEMPLOYMENT

A SCANDINAVIAN REALITY AND WORKFORCE ISSUES IN THE UNITED STATES

Rodney Moore, DDS, MA*
Department of Community Dentistry
University of Washington
Seattle, Washington, 98195
Current address:
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Dept. of Child Care and Community Dentistry
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Denmark

Over the past 20 years, dentistry has experienced unparalleled growth and development. Many of the assumptions of the 1960s concerning health care needs, education, technology, materials, and dental workforce supply, and delivery system practices have become obsolete. Only within the last five years have dentist employment and practice busyness become an issue. In spite of recent reports of decreased dental busyness, North American dentists usually have had no problems practicing their occupation and making a living.

That was also largely the same pattern in Scandinavia until recently. Presented here is an account of the current dentist employment situation in all Nordic countries, sources of employment problems, and ideas and plans to deal with dentist unemployment as appropriate for each nation. As varying blends of private and public sector delivery, dental health care systems in Scandinavia differ from most in North America. Scandinavian dentist unemployment should not be interpreted to be the same as practice busyness problems. Most Scandinavian dentists are not self-employed and, in most instances, cannot establish their own private practices immediately for various reasons to be explained.

In general, dentist unemployment in Scandinavia is defined here to mean joblessness in public dental health services or among

dentists who wish to be employed as associates or partners with already established private practitioners, but who cannot find jobs, part- or full-time. "Part-time" unemployment refers here only to dentists who desire full-time employment but are able to obtain only part-time work. Definitions vary from country to country and accurate part-time unemployment statistics are available only in Denmark. Lack of busyness or decreased patient demand and resource in Scandinavia is one definite factor as to why established practitioners do not hire associates, but lack of busyness is not the same as unemployment. Busyness here is defined as desired patient utilization as compared to actual utilization in an established dental practice. The countries in this account are grouped according to severity of unemployment. Sweden and Denmark have the most serious problems, followed by Norway, Finland, and Iceland. The current Nordic dentist workforce occupational statistics are provided in the table.

Sweden and Denmark

Sweden has 8.3 million inhabitants and about 9,400 active dentists (ratio = 1:883). Denmark has a population of 5.1 million

with 5,400 active dentists (ratio = 1:940). Current full-time dentist unemployment in Sweden is about 200 and in Denmark, about 100 dentists. Part-time unemployment is even greater in each of these countries. In Denmark, there are about 300 part-time unemployed.

All other variables being constant, at the current rate of graduation and with no greater increases in dental school drop-outs, it is estimated by both Swedish and Danish Dental Associations that these countries could have a total as high as 2,000 unemployable dentists by 1990. Several factors seem to have led to these workforce oversupply statistics. Spokespersons in both Sweden and Denmark agree that these factors are:

- a decreased total number of children in the population;
- dramatically improved child dental health;
- hard economic times coupled with decreased national insurance benefits in which the adult population has reevaluated dentistry as a lower economic priority, buying power of Scandinavian currencies has also decreased by about 40 per cent to 50 per cent in the last five years compared with the U.S. dollar;
- also mentioned are poor predictions and dental workforce planning by government agencies, dental associations, and other officials.

*Senior Postdoctoral Fellow Behavioral Dental Research Program Partially supported by Grant No. 5T32-DE-07132-04 from The National Institute of Dental Research

Sweden

As Sweden has a more centralized government, it seems that most observers fault Swedish politicians for their shortsightedness in not acting on recommendations for dental educational cutbacks in 1978. Both the Swedish Dental Association and dentists at the National Board of Health and Welfare suggested specific cuts in enrollment to the government at that time, based on workforce prognoses made by the SDA. Cuts in dental school enrollment did start in 1980 — from 500 to 380 per year in 1982, but these were well above the suggested dental association levels. The number was slashed to 260 in 1984, but even this is not enough, according to the SDA. Of four Swedish dental schools, the second largest, Göteborg, was threatened with closing in November 1983 as a "quick solution" to the problems. Local political action, street demonstrations, an international letter campaign, and coalition party politics saved the 700 employees and the school, famous for caries and periodontal research. But the dental school at Malmö, a much older school with a staff of 500, was then threatened with closure and will be phased out. The school stopped accepting any new students in the fall of 1984. Ironically, a brand new dental school was opened at Umeå in the north in the fall of 1983 in order to maintain a better distribution of dentists.

In Sweden, the ratio of public to private dentists is about 50/50, with private practitioners treating about 75 per cent of the total regular adult patients. Public dentists treat 25 per cent of adults and all Swedish children in outpatient clinics, but not in schools. National insurance benefits to adult patients seeking treatment in both private and public dental sectors have dropped from a 1979 high of 75 per cent of all prophylaxes and complete denture services and 50 per cent for all other services including laboratory costs, (no deductible)¹ to a current 40 per cent for all services, with patients paying a portion of costs of materials, such as gold. This has had obvious detrimental effects on patient demand in the pragmatic Swedish society, for both public and private dental sectors.

Sweden also reached a zero population growth rate long ago. Predictions based on 1980 census figures estimate a 14 per cent decline in 0- to 19-year-old children by 1990 during the 10 years. This, combined with a dramatic drop in children's caries, forces the Swedish Dental Public Health Service, which provides free dental care for all Swedish children 0 to 19,² either to reduce its dental corps or freeze hiring and do more adult and elderly treatment. The latter seems the course of choice presently, under the Social Democratic government. Addi-

tionally, an almost 700 per cent increase in dental hygienists calculated for the period 1978 to 1990 will undoubtedly have a dramatic impact on adult oral health in the future.

Younger Swedish dentists and dental students are the hardest hit by all these developments. An average of about 23 per cent of each class is now dropping out during or just before their clinical education, a figure substantially higher than before 1980 and still on the rise. Many of the dental classes in Sweden are being filled by foreign students, since the Swedish student quotas are not being filled.

New dental graduates, as of January 1984, entered a 1-year general practice residency plan in the public health service before seeking permanent employment. This new program assured a better geographic distribution of dentists, and has temporarily delayed unemployment for some. However, student attitudes range from guarded optimism to near depression over the future employment situation.

The Swedish Dental Association is considering the following possible solutions:

- Continued reduction in enrollment to 200 per year with regular workforce reassessments.
- "Worksharing" to provide new jobs with some rearrangements and redistribution of daily work hours to have, for example, a voluntary average of six hours per day. Competition among dentists, especially in the solo practitioner private sector, might make this idea untenable.
- Further elimination of the Swedish private practice "establishment control" has been suggested in which the government has required new private practitioners to start practices only in retired or deceased dentists' offices. The control has already been relaxed in several areas of Sweden as the dental public health service has completed its expansion which was the original idea behind "establishment control."¹ Also, with the elimination of "establishment control", office time-sharing schemes in the private sector would flourish because the younger, unemployed dentists seem more willing to share time and office expenses and work a reduced number of hours.
- Early retirement incentives are also suggested that would provide a special pension fund for willing 55- to 60-year-old dentists. In conjunction with "early retirement", the government would be expected to stop national insurance benefits to patients of dentists older than 65 years.
- Another suggestion is encouragement of new private insurances that might compete with or complement the national dental insurance and draw in more new regular patients. The Swedish concept of "union

dentistry' would have a group of preferred practitioners working in capitation or special premium schemes in conjunction with corporations or other organizations. This is similar to the U.S. Preferred Provider Organizations and Independent Practice Association concepts, to be mentioned later.

Also mentioned are:

- Improved marketing approaches to increase the demand for dentistry especially among the elderly. Only 60% of the Swedish adult population regularly visits a dentist. The SDA estimates that in three years that figure will increase to 75%. A three-part television campaign was instituted in Sweden in May of 1985 to increase public demand for services.

Most recently, many unemployed dentists are also being invited to continue their education and retrain for jobs in other professions, for example, pharmacology.

In addition to the exploration of these ideas inside Sweden, the Swedes are beginning to organize companies to export their excellent medical and dental knowledge and skills overseas both in dental workforce (Swede Health, Ltd.) and dental education systems (SWECARE), although these organizations seem to not be as well developed as similar Danish models.

Denmark

As Denmark has a more decentralized form of government, the Danish Dental Association (DDA) has been more influential in dental policy formation than the SDA has in Sweden. As a blend of public school dentistry and private adult dentistry², the interests of the DDA have often been divided. Another DDA faction called the Younger Dentists (including students) and a fourth, the Unemployed Dentists, have also added to divisions on issues within the DDA. Pediatric dentists and some of the Younger and Unemployed dentists have recently broken their relationship with the DDA to form the New National Dental Association, effective January 1, 1986.

Debate over unemployment has had private dentists wanting drastic reduction in student enrollment. Rather than just cutting enrollment, the school dentists, younger dentists, and unemployed dentists wanted a change in the association's dental health care policies to reflect new attitudes about care for the elderly and low overhead alternative practice modes. These dentists emphasize, as do most dental school administrators,^{3,4} that the dental unemployment problem lies not only with the numbers of dentists produced, but also the health care policies that encourage consumer service participation and the ways in which it is encouraged. The younger and unemployed

dentists assert that, since the Board of Trustees of the DDA has been dominated for years by a proportionately overrepresented majority of private dentists, the dental association is protecting the older established solo practitioner concept instead of guiding the profession into more realistic group practice and time sharing modes.⁵

The younger and unemployed dentists want to develop a new policy based not on high cash-flow reparative dentistry but rather, low overhead, more prevention oriented and affordable services. They believe that each dentist then would not need to see as many patients, changing the stress level in the occupation and reducing the increasing conflict between the dentist as "businessman" and the dentist as "professional". This would also provide more employment opportunities with decent, not exorbitant, income levels, and increased time for individual patient needs.

Since there is no competing adult public dentistry in Denmark, fee negotiations in the Danish national insurance scheme largely reflect solo practice interests. Fees are consequently the highest in Scandinavia, affecting dental demand, especially at this time when national insurance benefits have dropped from 60 per cent to 50 per cent. Only the patients of dental association members are eligible for these benefits. Crowns and fixed partial dentures are covered only by a supplemental private capitation insurance. Removable dentures are also covered by old age pension funds that vary by municipality depending on the economic wealth of the area. The combined economic factors of inflationary fee schedule negotiations, decreased or already low insurance benefits, and difficult economic times have made promotion of dental demand and creation of new dentist jobs highly improbable.

In addition, the decline in the total number of Danish children and their improved dental health have prompted many municipalities to start decreasing the total number of school dentists. There are already plans in certain areas for school dentists to begin to treat the aged and handicapped. Competition for new patient groups between private and public sectors has been the main reason for the dental association split up. The public sector feels that since it has been so successful in child care, it can best organize comprehensive prevention services for youths, elderly and handicapped. Nevertheless, a recent report from a National Board of Health sponsored commission of private, public, and academic dentists concerning the future of dentistry⁶ concluded that the pattern of dentist unemployment will increase until 1990, regardless of how adolescent, elderly or handicapped dentistry is divided between the public and private sectors.

To compound the employment problem, Danish dental graduates by law must serve a 1-year apprenticeship with a licensed dentist before they themselves can become licensed dentists, a policy initiated and continually supported by the Danish Dental Association. This has created quite an employment bottleneck for new graduates. Solo practitioners complain of a lack of dental business and have drastically reduced hiring of apprentice associates. For the new dentists, this has made establishing their own practices impossible. It has been suggested by the Dean at Århus that the apprenticeship become a bona fide and standardized general practice residency, probably affiliated with the dental schools.⁴ Others believe it should be dropped altogether.

The government of Denmark has not usually been as involved with dental policy formulation as the more centralized, Social Democrat-dominated Swedish government,¹ so most criticism is aimed at the Danish Dental Association for dentist unemployment problems, with some blame shared by uninformed county governments and the parliament. However, recently, pressures from the Ministry of the Interior indicate a trend toward centralization and away from institutional dentistry. The aims are even lower dental school enrollments and increased "privatization" of dental care. In December 1983, proposals for a new finance law were put forth by the conservative Danish government. One consequence of the law was a proposed closing of one of the two dental schools, the Royal Dental College at Århus. Surprisingly, the Danish Dental Association did not protest and only through street demonstrations by student, faculty, and staff members and by parliamentary lobbying, was Århus saved. Instead, the estimated 40 per cent student cuts (from 200 to 120) have been taken equally from Århus and Copenhagen. The DDA would like the cuts to be 62 per cent, a figure with which the Dean at Copenhagen strongly disagrees in defence of the academic health of the institutions³ and the future of dental research.

An employment committee of the DDA

has offered the following ideas for possible employment solutions besides the drastic cuts in enrollment:

- Voluntary redistribution of work hours encouraging more vacation time for dentists, ceilings on the total number of patients per dentist, and decreased hours for older dentists are less favored, yet viable ideas to employ new dentists at least part-time.
- Preferred practitioner organizations (PPOs) and industrial dental office ideas are not well accepted, as yet.
- Marketing campaigns to increase dental demand, such as shopping centre information tables, other exhibits, and free dental examinations are popular, but are still limited by consumer economic priorities and insurance constraints. The DDA is nevertheless hopeful that newer marketing technologies and nationwide dental information campaigns will aid the employment situation.
- Retraining of dentists to enter pharmaceutical and other medically related professions and businesses.

Other unemployed dentists are willing to find work outside the country through a DDA placement service or an export firm called Danish Health Care Systems, Ltd, contracting especially to Saudi Arabia and Kuwait. Another firm based in Århus (DANDEC), is a joint private industry-dental college cooperative venture, and will be exporting dental education hardware and software packages and postgraduate research training personnel to the Middle East, Europe, and the United States. The Danes find both of these ventures exciting new role possibilities for dental education.

Norway, Finland, and Iceland

Norway registers 20, whereas Finland has five, full-time unemployed dentists, but many who work part-time would like to have more work. Iceland is the only Scandinavian country that has no dentist unemployment nor lack of dental business.

Norway

A blend of public dentistry and private dentistry, Norway has about 4,200 practicing dentists for a 4.2 million population

TABLE I

Occupational Statistics for dentists in Nordic countries 1985.

Country	No. of Inhabitants	Total no. of active dentists	Dentist population	Total public dentists	Total private dentists	Full-time unemployed dentists		No. of students enrolled each year
						Present	1990	
Sweden	8.3×10^6	9,400	1:883	4,900	4,500	170	750+	260
Denmark	5.1×10^6	5,400	1:940	1,915	3,485	100	1,000+	120
Norway	4.2×10^6	4,200	1:1,000	1,900	2,300	20	0	105
Finland	4.8×10^6	4,070	1:1,179	2,100	1,970	5	100+	144
Iceland	220,000	190	1:1,158	0	190	0	0	6

(ratio = 1:1,000). The public sector consists of both cost free school clinics for children and special outpatient clinics for adults and children in some areas. Although there are 20 unemployed dentists, dentistry positions are reportedly open in rural and northern parts of Norway much the same as in Finland, indicating some evidence of a maldistribution problem. Husband and wife dentist families are especially affected in the metropolitan areas but the problems seem minor relative to similar Swedish and Danish situations.

Since 1982, the government has reduced dental enrollments by 50, to 105 students divided between the two schools at Oslo and Bergen.⁷ With a dental school drop-out rate between 30 per cent to 40 per cent Ivar Mjör, Norwegian Dental Association (NDA), (personal communication, November 1983), the real reduction in dentist output has been 30 per cent. This is attributed mostly to students knowing that the dental workforce situation is more crowded than in the past. They seem to have heeded market signals earlier than Danish and Swedish students. The effects of a "slow start" in educating dentists in Norway, where only a few dentists were educated for many years during the '50s and '60s, forced Norwegian dentists to study outside the country. With their return and a slowly increasing "home-taught" dental corps, some congestion in the market has occurred, according to Ivar Mjör, the Norwegian Dental Association president.⁷ The "double effect" of these two workforce sources is expected to be eliminated by 1990. The NDA has stated a clear policy for retraining any future unemployed school dentists to treat the elderly and handicapped.⁸

Other strategies that the NDA proposes to prevent dentist unemployment are:

- "No guarantee" private associateships, as described earlier.
- Increases in yearly periodontal treatment and prophylaxis.
- Continuing campaigns to increase the number from 60 per cent of adults who regularly attend the dentist to 70 per cent. In 1981 the NDA held a periodontics information campaign first for dentists via coursework and then for the public on Norwegian radio and television. The effects of the campaign are monitored by Gallup polls. It is estimated that about 8 per cent of the population have become aware of specific periodontal symptoms more than the base line rate prior to the campaign.
- One successful NDA strategy was to encourage the government insurance department to make the adult public fee schedule equal to the private fee schedule, as of January 1984. The adult public clinic fees had been set at 15 per cent below pri-

vate fees in a unique situation in which public officials set public and private dentist fees with virtually no national dental insurance benefits. After the age of 20, Norwegian adults pay their whole dental bill. Before 20, all dental services are free in the school clinics and people who are handicapped and the aged receive at least partially subsidized care.

Finland

Finland has about 4,070 dentists (half private, half public) for a 4.8 million population (a ratio of 1 to 1,179). Only a handful of dentists are unemployed so far, but there is an expectation at the dental association that about 100 to 150 may have no job by 1990. The job market is already getting more congested except for rural and northern areas. Finland also has competing public and private adult services as in Sweden, but is currently without national dental insurance benefits for the private sector. A 60 per cent national insurance coverage was expected to be instituted as of January 1986. The four dental schools at Helsinki, Turku, Oulu and Kuopio have recently reduced student enrollment by 70 per cent. This has mainly been in response to a gradual increase in very briefly unemployed new dental graduates. Not only the dental association wanted these reductions, but also the Ministry of Education, in order to increase post-graduate specialist training using the same resources.⁹

Seventy per cent of Finland's dentists are women and have been for most of this century. This is in contrast to Denmark and Sweden where just less than half of the dentists are female. Danish and Swedish dental association officials and politicians were perplexed because women wanted to work nearly full-time, contrary to their work-force planning predictions. With some exceptions in the private sector, Finnish female dentists seem to accept part-time work and time-sharing arrangements that allow more time for themselves and family, according to the Assistant Chief Dental Officer, Heikki Tala, of Finland's National Board of Health.

A 1983 Finnish Dental Association survey of all private dentists indicated that 30 per cent would like to have an average of 7.4 hours more work per week indicating a limited busyness problem; 6 per cent had too much work; and 64 per cent were satisfied. In 1981, the Finnish Dental association launched a national television and radio campaign to increase demand for dental services which was preceded by information and coursework for dentists. Dental visits increased by 11 per cent from 1980-1983 as compared with a baseline measure taken from 1971-1980 Gallup polls.^{9,10} The emphasis of the campaign was regular checkups to preserve teeth for a lifetime. It

seems to have met with success, even winning a top award for planning at the International Advertising Association meeting in Brussels, 1983.

Iceland

This country has only 220,000 inhabitants and 190 dentists (ratio = 1:1,158) all of whom are private practitioners, with many educated in the United States. There are no dentist unemployment problems here; in fact, this country is the only one in Scandinavia that still needs dentists, especially in the sparsely populated areas. The one dental school at Reykjavik is new and produces only six dentists, so dentist employment problems are not likely to be an Icelandic reality in the future. Iceland is in the process of building public clinics in remote areas that are less attractive to private dentists. The Icelandic Dental Association is pushing for state-supported free dental treatment for everyone younger than 20 years and older than 66 years,¹¹ which would increase demand significantly in the future.

The Future

Some experts in Sweden and Denmark are predicting a "second wave" of need for dental services starting in the 1990's. This would largely be the results of people now aged 30-50 retaining their teeth longer as they age. The co-called "second wave" of treatment would largely be treatment of periodontal problems and replacement of failed restorations. Such effects may be temporary, since young adults now have fewer and fewer restored teeth and better oral health. So after the current 30-50 year old generation's needs for services are fulfilled, the future of dentistry is unknown. Scandinavian devotion to the promotion of oral health in its children, will most assuredly change the need and nature of dental practice and the role of the dentist in the not too distant future, probably in the direction of a stomatologic specialist in medicine and oral health team leader. More dental school closings appear inevitable. The remaining dental schools will most probably become special national centres for continuing and postgraduate education, in preparation for future role shifts in dentistry, as well as international export centres for foreign dentist training. Development of dental health care delivery in underdeveloped countries, at their request, seems more likely to draw the attention of future Scandinavian dental professionals.

Dental Workforce Issues in the United States

The dentist workforce situation in the United States is much different. There are

no known unemployed dentists by the earlier definitions. There are currently 140,920 active dentists in the U.S. for a total population of 235 million or, a ratio of 1 to 1,668.

Dental busyness problems appear to occur most frequently in metropolitan areas. An American Dental Association survey in 1981 indicated that nationally, 35 per cent of U.S. dentists answered that they were "not busy enough".¹² A longitudinal study in Iowa showed that "not busy enough" grew by 33 per cent between 1977 and 1984.¹³ For purposes of this discussion, issues about busyness will only be presented as a discussion of factors impacting on current economic pressures within U.S. dentistry, strategies for dealing with these pressures and implications for the roles of dentists and dental education in the future. This is preceded by a brief overview of U.S. practice modes and dentist supply statistics.

Form of Delivery

The private practice of dentistry in the United States remains the primary means (92 per cent) for the delivery of dental services to the U.S. public. Public dental services account for only about 8 per cent of services and are based in military facilities, hospitals, nursing homes, and Federal, state and municipal clinics. While about three quarters are self-owned solo private practices, multiple dentist practices are becoming more and more popular.¹⁴ Also, during the last several years, changes in the delivery of dental services have included the growth of alternative forms and settings of practice, such as retail dentistry, corporation dentistry, and health maintenance organizations. However, these nontraditional approaches are estimated to comprise only about two percent of all dental services provided.¹⁵ Retail dentistry refers to the delivery of dental services in stores, malls, plazas, or free-standing buildings. This also included franchise dental clinics. For the most part, the facilities combined visibility, convenience, competitive pricing, and the use of advertising to attract patients — an approach to patients which resembles consumer-oriented businesses.¹⁶

Cooperative organized dental health care, however, has also made its appearance in the U.S. market in recent years in the form of health maintenance organizations or HMOs. As of June 1981, approximately 243 HMO's served 10.2 million members, but only about 25 per cent offered comprehensive dental services. Federal grants and loans to HMOs have been reduced in the last several years. There is some evidence to suggest that major insurance carriers and

other national health corporations will continue to increase their financial investments and commitments to the HMO concept.¹⁷

Dentist Supply

A recent report by the American Dental Association Special Committee on the Future of Dentistry recommended to "reduce national manpower production based on changing disease patterns, demand and need for dental services, manpower availability, and regional oversupply".¹⁸ The supply of dentists in the United States has increased faster than the general population increase, but the geographic distribution of dentists continues to show large variations across States and regions. Far from zero population growth, the U.S. population is expected to grow by 14 per cent from 1980 to the year 2000, while the numbers of dentists will grow 23 per cent in the same period.¹⁹ The growth in aggregate dentist supply is expected to be much greater between 1980 and 1990 than between 1990 and 2000. The ratio of active dentists to population would thus increase from 1 to 1,794 in 1980 to 1 to 1,650 in 1990 and 1 to 1,608 by the end of the century.¹⁹

One conspicuous change in dental demographics during this time is that sixty per cent of the projected growth in the active supply of dentists between 1982 and 2000 would be accounted for by women. In 1982, women constituted only four per cent of the active dentist supply, a figure that will grow to nine per cent in 1990 and 15 per cent in 2000.¹⁹

The increased production of dentists, coupled with reduced caries prevalence, (32 per cent reduction in 5-17 year olds (1972-1979))²⁰ advanced technologic productivity, regulatory changes permitting advertising, and sluggish economic performance have converged in the early 1980s to produce competitive economic pressures within the dental profession. As a result, dental fees have tended to stabilize. For the past several years, dental fees, in general, have only increased at the same rate as the consumer price index. In fact, in some instances, with the recent advent of Preferred Provider Organizations or (PPOs), dental insurance companies are lowering fees through contract services with institutions, organizations and corporations. IPAs of (Independent Practitioner Associations) are small "unions" of dentists banding together to represent their own economic interests, largely in response to insurance company sponsored PPOs. Currently, however, the impact of PPOs and IPAs on pricing have thus far been small compared to general market forces.

Encouraged by Supreme Court decisions

and Federal Trade Commission actions in other professions, U.S. dental professionals have initiated marketing strategies to maintain their economic viability. National, state and local dental organizations have begun advertising campaigns in the past few years. The extent of effectiveness of advertising in attracting new patients has clearly been shown in the Finnish dental health campaign. Television is recognized as the most effective medium, but it is also the most expensive. A recent example of how expense can effect choice of medium is the nationwide "paid public education" television campaign about periodontal disease prevalence, proposed by the American Dental Association.²¹ The cost of the program (a dues increase of \$125 per ADA member) seemed so prohibitive and benefits to individual practitioners so uncertain, that the plan was voted down by the ADA House of Delegates in fall 1984. The ADA has, however, provided economically priced videotapes that component dental societies can purchase for local T.V. promotions.

Since competition for patients among practices seems to have increased, many dentists prefer to spend their money promoting their own practices. Many local ads try to lure in new patients with special managerial promises in newspapers and telephone books. This movement clearly represents the shift toward a more competitive environment within U.S. dentistry.^{22,23} Many voices within the profession are concerned about advertising practices and feel that much of it is in poor taste.²⁴ But nevertheless, the U.S. trend is toward local and private advertising as opposed to national campaigns to increase demand.

Many of these competitive free market concepts seem to contrast drastically with Nordic ideals that the organization of health care belongs in the public trust and that health care delivery must not be relegated to commercial business interest and "buyer-beware" perspectives. To many of the members of Nordic dental associations, private dentist advertising practices in the U.S. are too liberal and conceptions of "glitter" dentistry and "automated" dentistry that cater to reparative oriented profit motives are unpopular. When compared with the Scandinavian unemployment situation, U.S. trends appear to be somewhat of an overreaction to perceived lack of business.

There are other reasons to scrutinize marketing strategies. The results of investigations of the A.D.A. Committee for the Future of Dentistry have recently been criticized because their data base may be incomplete regarding dental disease. The assumptions they make regarding needs for regular dental service may also be incorrect.^{25,26} While marketing experts hired by dental organi-

zations in the United States and Scandinavia are pondering how to lure patients in for regular dental services, there has been no substantive research as yet indicating the actual need for regular six-month dental care.²⁷ It may be that a large percentage of the population doesn't really need such services, and that annual, biennial or other checkup intervals would suffice instead of six-month checkups. Institutional overtreatment of patients may unknowingly occur when patients are not aware of their own health care needs in relation to the needs of others in a society. It is up to each dentist and dental organization to help the patient learn these needs, beyond financial self interest.

Dental Education

Market forces have also begun to exert their influence upon U.S. dental education. The number of applications and first-year enrollments have shown marked declines that are beginning to affect the output of dental graduates. Currently there are 60 U.S. dental schools. The number of applications to dental schools increased dramatically between 1960 and 1975, but has fallen gradually in the past seven years. While 37 per cent of all applicants were admitted in 1975-76, in 1982-83, 71 per cent of all dental school applications were admitted.¹⁹

As the number of applications has declined, so have pre-dental grade point averages and Dental Admission Test averages for entering dental students. The declines have been small but steady, and may reflect a decline in the quality of dental school applicants. The combination of reduced enrollments, increased operating costs, high inflation, and reduction in Federal assistance have converged in the early 1980s to produce substantial financial distress in a number of schools. In addition, many schools are frequently faced with increasing replacement costs for the facility and equipment infrastructure established over the past 10 to 20 years.

So far, two dental schools, Emory University in Georgia and Oral Roberts University in Oklahoma, have closed their doors to new dental student enrollments, and are phasing out their programs by 1988.²⁸ There is a possibility that the University of Kentucky's dental school may also be phased out.

The Future

On the future demand side, more people in the United States are seeking dental services than ever before, so growth has been steadily increasing, in spite of a decreased caries prevalence among children. It may be that after the year 2000 improved dental health of children today will translate into a decline in the need for dental services as

we know them today. But since comprehensive dental care for children has not been as extensively developed in the U.S. as in Scandinavia, the decline in the need for restorative services may be more gradual in the U.S. than has occurred in Scandinavia. Regardless of child care factors, demographic shifts are occurring in the U.S. population in which there is an increase in the age groups that manifest periodontal disease. There will also be lengthier retention of serviceable teeth. But it is unclear how treatment of these elderly populations will be financed, since many will be on fixed income retirement support or low incomes. In general, however, economic barriers to utilization are also increasingly being removed. Only two per cent of the U.S. population had private dental insurance coverage in 1967, while that number increased to 38 per cent by 1981,²⁹ and continues to increase. This increase could be interrupted if the Reagan administration's tax reform package is passed in Congress. This reform would include medical and dental insurance benefits as taxable income.

A 1984 report compiled by the Health Resource and Service Administration¹⁹ for the U.S. President and Congress concludes that with the voluntary drops in enrollment, increased dental marketing, and increased consumer awareness, growth in need for services will continue to be steady, although less dramatic than in the 60s and 70s through at least the year 2000. Another, more recent, Harvard report concurs.³⁰ With a sustained economic upswing, applicants may find dentistry more attractive, again requiring modifications in dental education to meet the need.

The HRSA report also states that, "current planning assumptions and implications indicate that the dental curriculum of the future needs to be more oriented toward primary care practice, resulting in a graduate who as a general practitioner would be more capable of delivering many services now provided by specialists. Concepts of practice and productivity management will receive increasing emphasis". In other words, the dentist of tomorrow will become an oral health team manager, with a broader range of specialized skills for more demanding cases — the "supergeneralist" concept.^{31,32}

The report concludes: "Change needs to evolve by design rather than by chance, and dental schools will need support to continue the curriculum research and development necessary to plan, develop, and implement a dental curriculum that meets the requirements of a society which is undergoing rapid demographic, epidemiologic, and socioeconomic change."¹⁹

Some final remarks: There are legitimate

concerns about overproduction of dental workforce in Scandinavia and the U.S. from the interests of dental associations, government, and consumers. Dental associations are concerned for the public good and about government interventions, while also protecting the interests of practicing dentists for business and financial reasons. Governments are concerned with containing spending in hard economic times, yet still have an obligation to promote the public health and safety. The consumers of dental services are often hard pressed by taxes, inflation, decreased dental insurance benefits, or decreased buying power of their currency, as in Scandinavia, and must reassess dental values and economic priorities. Improved children's dental health and decreased child populations also have a definite impact.

Beyond all these perspectives, it must again be emphasized that in this age of rapidly changing health service needs, that it is imperative to base predictions of dental personnel needs on the best epidemiologic evidence of the extent of dental disease and/or needs for treatment. Based on the current situation in Sweden, I suggest that the rightful place of good oral health in the total health needs of the public remains the dental profession's function and *raison d'être*. But the profession must generate an accurate data base for formulation of these important decisions beyond any conflicting self interest. Moral and ethical questions arise when the routinized livelihood of dental practitioners must face a challenge like unemployment. With higher dentist unemployment or lack of busyness, there may be greater risk that the business part of the profession pressures practitioners into "moral slips" such as insurance fraud and overtreatment of patients — undoubtedly a serious potential hazard to the public. Any form of institutionalized or individual practitioner overtreatment does not serve the public interest and should, with assured professional foresight and wisdom, be avoided. It is ultimately in the interests of the whole society to understand the balance between the needs of the public and the changing role and needs of health care professionals and how governments can best facilitate that balance. New and often difficult lessons are currently being learned about this process in Scandinavia.

I suggest that management of these relationships and balances would best be done through three-part committees consisting of consumers, dental associations, and government at the invitation of dental associations, so that all parties are well informed of one another's concerns and perspectives and so that future dentist unemployment, as exists now in Scandinavia, can be avoided. Even if we can avoid

such dental workforce problems, the role of the dental profession beyond the year 2000 will change radically, many times revealing to us an unrecognizable self-image. We must face these changes with conscientiousness, creativity, courage and calm resolve.

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DENTAL MANPOWER

AN F.D.I./W.H.O. VIEWPOINT

G.S. Beagrie, DDS, DSc

INTRODUCTION

Lack of busyness of today's dentist in industrialized countries is causing the Profession to look carefully at where it is going.

Last year a Special Session of the General Assembly of the Federation Dentaire Internationale was held to study ways to lower barriers to oral health care or — to increase the demand for dental services to fulfil unmet need.

The F.D.I. President has as one of the priorities of the Federation to look at "busyness of the dentist."

Why has busyness become so important?

Much evidence is available to indicate that the present lack of busyness is due in part to dentistry being developed as a separate profession from medicine for the purpose of treating dental caries. Indeed, the Fauchard treatise on Dentistry attests to this. So dentists became technical experts to manage the symptoms of dental caries as a disease. That has changed, *and* rapidly in recent years.

Present practice profiles show that the Profession is changing in its approach to oral health care, but the major focus is *still* on dental decay and the sequelae.

Unfortunately, dental school curricula and licensure examinations still concentrate on the time-honored approach to education and training, with emphasis on *TRAINING*.

There is evidence, however, that some groups have altered their thinking but not either quickly enough or with enough backing from the Profession to accommodate both the new graduate and the old with equal sensitivity.

Since we, the Profession, are the servants of the public, it is imperative that a more effective "bridge" be made between the two. By bridging the gap the different approaches to dental care are then made more clear. In addition to society, the politicians must be made aware of such change, otherwise the busyness of the dentist will be increased by unethical means and overtreatment will be the result.

Preventive Oral Medicine

"The public at large is at present completely unaware that, in individual cases, up to 95 per cent of caries as well as the gingival and periodontal problems can be completely prevented or maintained during interceptive therapy by dentists and dental hygienists using pharmacological agents and strict self-discipline."

(Hans Muhlemann 1984)

"The introduction of surveillance and guidance as the active reparative process" is how Past-President Miller Yardley of the British Dental Association described the future activity of the dentist. Another title for future dental practitioners would be the physician of dentistry rather than the surgeon, using minds, laboratory tests, and

assessment of data as tools for treatment rather than active cutting of tissue affected by disease.

To accommodate these differences, the curricula of dental schools will change in focus, but the dominance of training and educating of general practitioners will rightly remain. As a result, one manpower effect will be felt quickly, with a reduction in the numbers of specialists available and being trained.

The new oral physician will require wider training in a hospital or hospital-like setting with the introduction of added skills learned taking place after the completion of a degree but before being granted the license to practice. Such additional learning from an already established practitioner will allow a much needed transfer of knowledge between new graduates and older practitioners with a "knowledge blending" which will be beneficial for both.

Science in Dentistry will increase in importance while Art will assume a less dominant role. The present trend in undergraduate education to teach subjects previously considered post graduate will expand. In the subjects of orthodontics, oral surgery, endodontics, periodontics and advanced restorative dentistry the graduate of today now has skills which previously were contained only in specialty programs.

Research is the stimulus for change. Biological advances are occurring with such speed and sophistication that if Dentistry

intends remaining one of the health professions, a full understanding of these sciences is essential. Medicine and Dentistry will pull closer together in the development of the oral physician, and the wisdom of past educators in the development of common path basic sciences between the two professions will become even more apparent.

The benefits of Dentistry becoming a university discipline are now being felt, since dental science is providing the profession with new approaches not only in management of biological problems but also in medicine, pharmacology, metallurgy, materials science and behavioral science.

Such changes as are occurring in practice do nothing but strengthen the John Gardner adage for professional education:

"If we indoctrinate the young person in an elaborate set of fixed beliefs, we are ensuring his early obsolescence. The alternative is to develop skills, attitudes, habits of mind and kinds of knowledge and understanding that will be the instruments of continuous change and growth on the part of the young person. Then we will have fashioned a system that provides for its own continuous renewal."

Developing countries have an advantage over the industrialized countries inasmuch as they have the opportunity to avoid the mistakes of the developed countries.

The gathering of data using WHO methods to provide the demography of oral disease will allow new developing countries to plan for the correct manpower to prevent disease and maintain good oral health. Such Planning will take account of numbers of dentists, hygienists, educators, technicians and other appropriate workers required.

The WHO has set a goal of "a reasonable state of health for all by the year 2000" and the development of goals for oral health have been established in various countries taking their respective disease problems into account. WHO data bank maps not only give a picture of disease trends, but they can also be married to the manpower needs. This is as true for developed as for developing countries. A problem for the developing countries however, is that they tend to copy the services devised in the developed countries as being correct when, in actual fact, much of the service needed in the developing countries should discount the developed country programs.

The fact that the cost of comprehensive treatment of caries and periodontal diseases is becoming prohibitive even in the richest countries of the world calls for cheaper and more effective oral health care systems. Of major concern is the development of a health manpower able to assume an active role in community health education, with new programs developed in which skills are taught

which will help both individuals and communities to understand their own problems and choose the correct solution as well as promote self-care.

Dental Manpower Projections for Canada

In the past, manpower projections for Canada and elsewhere have been haphazard in the extreme and were made by guesswork rather than by use of disease status and population demography and therefore related to social needs.

Take for example the recent past development of Dental Schools in Canada. With World Health Organization data of 12 year old D.M.F.T. the outline of caries in this age group would follow the graph shown in Figure 1.

The profession and politicians were clamoring for new dental schools after World War II and thus Canada expanded from five dental faculties before the war to ten by 1967. The first of the new schools was established in 1957 at the University of Manitoba, the second at the University of British Columbia in 1962, while Saskatchewan, Western Ontario and Laval followed during 1966-68.

Yet, by the time the decision to have new Faculties was taken, the caries rate for 12 year old children was over the "peak" of 1950 at 12 D.M.F.T. and by 1957 was around 9 or even less.

The lesson to be learned must be to use disease status when planning for health professional needs. Other diseases such as periodontal diseases, mucosal diseases, cranio facial anomalies and malocclusion must also be indexed. Canada should establish a National policy for the use of indices across the country so that meaningful data can be collected, and comparison and predictions made which are acceptable for the nation as a whole.

The caries disease changes referred to in Figure 1 with a gross reduction in present day caries experience, is apparent in all provinces of Canada. Furthermore, there is evidence that periodontal disease is also decreasing and what is present will not demand as much dentist care as was at one time thought. Both of these downward changes in the disease state are reflected in all industrialized countries, whereas the opposite is true in the developing countries.

The Fédération Dentaire Internationale in conjunction with the World Health Organization is attempting to forecast manpower needs for all member countries through the FDI/WHO Joint Working Group on "Dental Manpower." In presenting material to you in this symposium I must acknowledge the use of the techniques outlined from this FDI/WHO Joint Working Group and identify

the Working Group Leader, Dr. Clive Ross of New Zealand, and Mrs. J. Sardo Infriri, Scientist with the Oral Health Unit at the World Health Organization, without whom there would be no report.

What of the Future Manpower Needs in British Columbia?

It is reasonable to assume that someone born today in Canada will, on average, live for the next 80 years. Future needs for dental personnel, then, require to be projected against such a life span. It will be necessary also to project the needs of the parents and grandparents of the child of 1985 since they, too, will require dental care.

Because of the inability to provide background material data for Canadian forecasting, the FDI/WHO method will be described to project the needs of manpower for British Columbia. The 1983 population data of British Columbia is 2,854,000; the number of dentists 1,746, dental hygienists 513 and dental assistants 2,205.

FIGURE 1

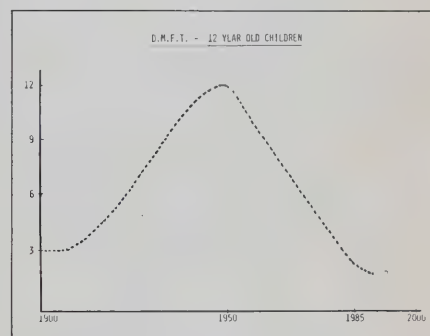


FIGURE 2

Age cohorts for manpower Calculation

COHORT I	0 - 29 Years
COHORT II	30 - 64 Years
COHORT III	65 - 80 Years

FIGURE 3

Data needed for monitoring Oral Sector

Related Data
Fluorides in environment, water, salt, etc.
Use/sales F tablets rinses
Use/sales F dentifrices
Total sales - oral hygiene instruments
Sugar consumption
Antibiotics - total sales
Insurance programmes - payment methods and amounts

FIGURE 4
Items for calculation of lifetime oral care treatment needs (1)

AGE COHORT 0-29	
Restorative care	
0-12	decayed surfaces (permanent and primary)
13-29	decayed surfaces and replacement of restorations
30-80	replacement of restorations
Periodontal care	
15-29	% per year needing scaling
30-80	% per year needing complex therapy
Orthodontics	
Removable	% need and/or demand
prosthodontics	% needing care and episodes/life
Fixed	% needing care and units/person
prosthodontics	impactions and trauma
Surgery	additional time for domiciliary or institutionalized care
Geriatric and Special Group	care
AGE COHORT 30-64	
Restorative care	
decayed surfaces and restorations	needing replacement
Periodontal care	
30-80 years	% per year needing scaling
	% per year needing complex therapy
Removable	
prosthodontics	% needing care and replacements
Fixed	% needing care, number of
prosthodontics	units and replacements
Surgery	% needing care
Geriatric and Special Group	time for domiciliary or institutionalized care
AGE COHORT 65+	
Restorative care	
number of restorations needing replacement	
Periodontal care	
% per year needing scaling	
% per year needing complex therapy	
Removable	
prosthodontics	% needing care and replacement
Fixed	% needing care, number of
prosthodontics	units and replacements
Surgery	% needing care
Geriatric Care	additional time allowance for domiciliary or institutionalized care

If you accept such an approach of projection it is then necessary to divide the population into 3 age cohorts as shown in Figure 2:

Population projection data for 1985 would suggest that at present Cohort I represents 49 per cent of the population, Cohort II 41 per cent and Cohort III 9 per cent. Future predictions would expect a population in the Province of British Columbia by the year 2000, of 3,464,000 and 3,805,000 by 2025. There would be an expected change of the percentages of the cohorts with 37 per cent, 45 per cent and 17 per cent for cohorts I, II and III respectively by the year 2025.

The process of assessment of need must also take into account the mobility of the population, such as movement of rural to urban settings or vice versa, plus emigration or immigration both of the population and/or oral health care personnel. In this the policies of governments must not be forgotten.

Having arrived at predictions regarding the populations to be in need of care over the future years, it is then essential to determine what will require attention within the various age cohorts in terms of both diseases requiring care as well as possible traumatic injuries and preventive and corrective therapies. Armed with such information, calculations of oral health personnel needed and the mix of personnel required to meet the population needs can then be established.

What is the prevalence of dental caries as demonstrated by the DMFT and the level of periodontal disease in the various age cohorts as seen by use of the Community Periodontal Index of Treatment Needs (CPITN)? A measure of malocclusion, of oral mucosal lesions, impactions of teeth and range of trauma are other factors requiring attention. Having procured such information, it is then necessary to have knowledge of treatment types required and the longevity of prosthetic appliances, restorations, etc. Is the major need of 12 year old children fissure sealants or Black Class II type restorative? The former can be performed by expanded duty hygienists the latter is more in need of the dentist professional.

Thus the personnel to be involved and planned for must relate to public need.

The country must determine the mix of those it wishes within the oral health profession. It is important to determine not only how many there are, but also what duties and work are expected from each category. Legislation both within and across countries can vary in this regard but the mix and number involved must be settled.

Are dentists in full-time practice required,

or are specialists or general practitioners? How many technicians are there and what is their training? Will the training take into account the changes expected from new technology? Has the government any plans to increase or decrease any of the oral health care personnel?

Outside Influences

Extraneous factors which will affect outcome are illustrated in Figure 3. These relate to oral health monitoring. For example, is there fluoridation of water supplies, fluorides in salt? What is the sale of fluoride dentifrices? What are the sales of toothbrushes, dental floss and other aids for personal oral hygiene? All of these items become measures which affect the oral health of the population. In addition, diet and in particular sugar intake require to be considered.

Since periodontal disease and dental caries can be affected by antibiotics these, too, can be monitored with advantage.

Major treatment needs can be identified for each age cohort and the satisfying of these needs requires careful planning. Figure 4 outlines these for the respective cohorts 0-29 years, 30-64 years and 65-80 years.

In the older age groups maintenance care takes over from active complex treatment. In the older age group, too, there will be more care in the form of required as domiciliary or institutional visits of oral health personnel.

Assumptions for Calculation for a Lifetime of Oral Care

With the foregoing information on hand it is necessary then to make certain assumptions so that predictions for a lifetime of care can be provided. These assumptions are shown in Figure 5.

The calculation of the times suggested in care and in repeat care or replacements have been procured from data provided by insurance companies and also from the Canadian Armed Forces Dental Service Branch.

The calculation thereafter can be made for the average treatment time per person per year.

For the whole population the estimate can then be calculated after making certain assumptions.

Example of Oral Care Personnel Planning for British Columbia

The following example has been based on oral disease data for British Columbia and Ontario during the period 1948 to 1983, including information from the International Collaborative Study of Dental Manpower systems.

The collation of this information indicates that the oral disease profile for the British Columbia population is as follows:

1985

The youngest age cohort 0-29 years is at the borderline between low and moderate disease prevalence level.

Adults older than 29 years are at the upper limit of the high tooth disease profile.

It has been assumed that continuing preventive programs will reduce disease levels of children born in 1985 to a low, even very low level.

In 2025 therefore, the youngest age cohort (0-29) and part of the adult group (up to age 40) will exhibit a low to very low disease profile, while the remaining part of the adult group will be at the low, possibly moderate level; the oldest age cohort (65-80) however will still exhibit the sequela of the high disease level experienced when they were children in the period 1945-1960.

Using the formula and calculation method on Figure 7, an estimate of oral care needs for the province of B.C. in 1985 for a full-time life span (80 years) is calculated at an average of 55.5 minutes of work per year for each person. Cohort I calculations are for 35.0 minutes per person while Cohort II and III have an average time of 76.0 minutes. This works out at an average of 55.5 minutes previously referred to. The calculation takes into account all the assumptions and needs, but must be seen as utilizing 100 per cent of the service by each person in the cohort and demand never equals need.

If we assume that every dentist will work at the chairside for six (6) hours every day for a five (5) day week for 48 weeks per year then the need would be for 1 dentist for every 1787 people.

By the year 2025 Cohort I will require even less treatment than now while ages 30-80 years will need treatment of the sequelae of high disease experiences when they were children in 1945-1960.

By 2025 treatment time calculations would point to 27 minutes per person per year being required and for this ONLY 1 dentist will be needed for every 3,300 people.

It is worth repeating however that all these figures relate to the total care needs calculated over a whole lifetime and that the care needs time will not correspond with the care needs demand of the population.

The approach to management of present and future manpower must be predicted on the need to project according to the dictates of data collections on population, treatment needs and demand, type of care requested, care organization and financing, research in prevention and care technology, education and re-education of personnel, as well as the all-important political, social and economic policies (Figure 8). To take all of these variant factors into account and arrive

at resolution of the events requires a National Planning and Monitoring Group for Oral Health with appropriate representation of the consumer, National Associations and the politicians.

The Canadian Dental Association must provide the appropriate leadership for this and set up such a group.

This report is published with the special permission of the FDI/WHO Joint Working Group on "Manpower". The full report is in preparation, and will appear in the fall 1986 issue of the International Dental Journal.

Dr. Beagrie is Dean of the Faculty of Dentistry, University of British Columbia.

FIGURE 5

Assumptions for Personnel Needs

1. Life span of 80 years
2. Treatment times
 - a) Each surface restoration 15 minutes
 - b) Scaling per sextant 10 minutes
 - *c) Orthodontic care/per case per lifetime 180 minutes
 - d) Removable prostheses/per case 150 minutes
 - e) Crowns and bridges/per case 150 minutes
 - f) Complex periodontal care/per case 180 minutes
 - g) Surgical intervention 300 minutes
3. Repeat care/replacement periods
 - a) Restorations 5-15 years
 - b) Removable prostheses 5-10 years
 - c) Crowns and bridges 5-15 years

* Assumption one treatment per lifetime

FIGURE 8

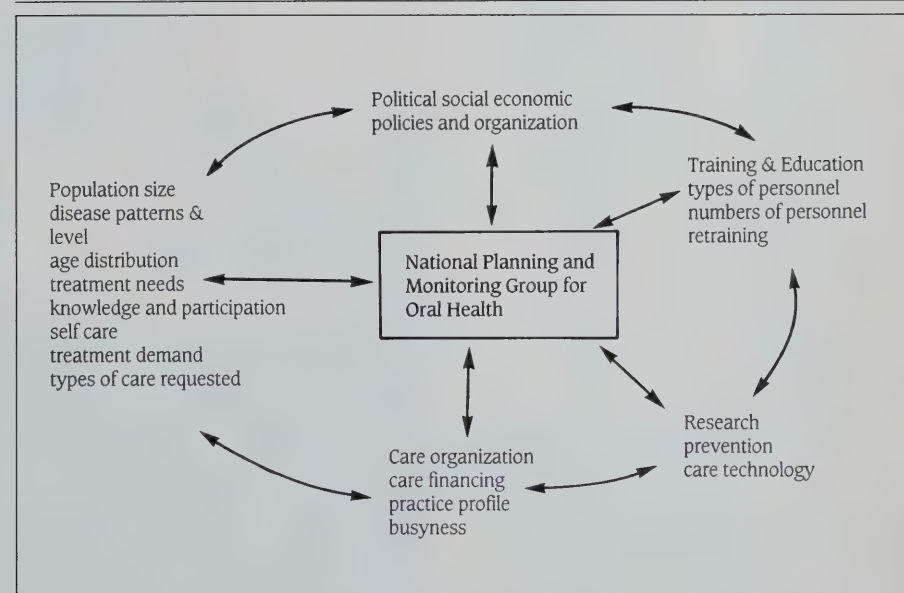


FIGURE 6

Population and age distribution for British Columbia

Population B.C.		
1983	2 854 000	
2000	3 464 000	
2025	3 805 000	
Age distribution	1985	2025
10 - 29	49%	37%
30 - 64	41%	45%
65+	9%	17%

Information on population was obtained from the United Nations 'Demographic Indicators of Countries'.

FIGURE 7

Calculation of Average Treatment Time per Person

Lifetime care per person for age cohort 0-29
+ by 80 for care minutes per person per year
Lifetime care per person for age cohort 30-64
+ by 50 for care minutes per person per year
Lifetime care per person for age cohort 65-80
+ by 15 for care minutes per person per year

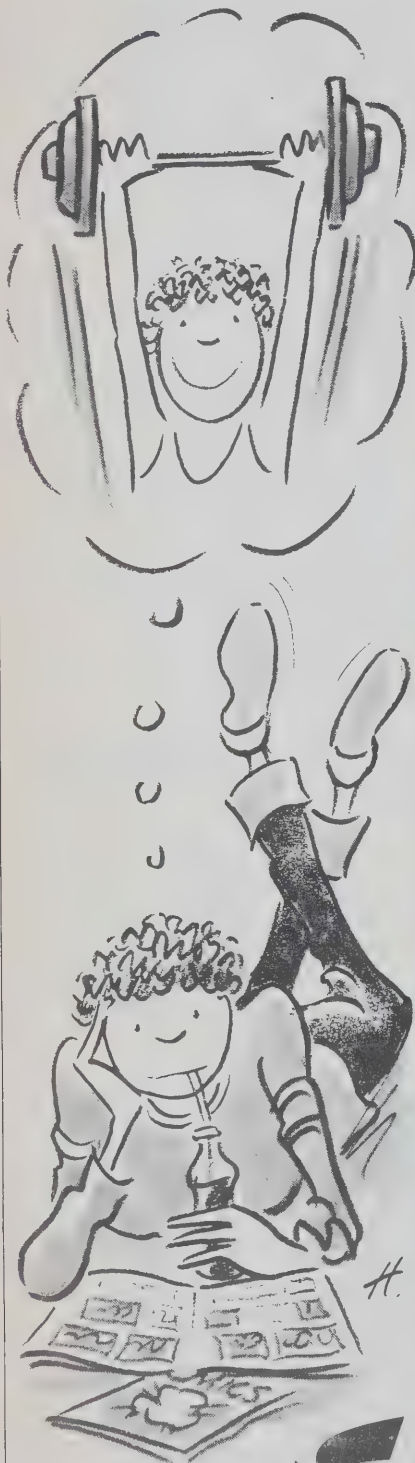
$$\left[\% \text{ cohort} \times \frac{\text{minutes care}}{\text{per person/yr}} \right]$$

calculate 0-29
and add for 30-64 = average treatment
each cohort 65-80 time per person/year

100

— Prepared at WHO, 1985 —

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EFFICACY		
equipotent	ANALGESIC	equipotent
equipotent	ANTI-PYRETIC	equipotent
not indicated	ANTI-INFLAMMATORY	required dosage generally exceeds analgesic/antipyretic levels and regular administration is necessary — lesser or intermittent dosage is ineffective
SAFETY		
hypersensitivity in rare instances	ADVERSE EFFECTS	GI bleeding, ulceration, nausea, vomiting, diarrhea, vertigo, tinnitus, hearing loss, pruritus, urticaria, angio-edema, anaphylaxis
slight increase in prothrombin time for patients on oral anticoagulants but generally clinically insignificant	PRECAUTIONS	history of GI ulcerations, bleeding tendencies, anemia or hypoprothrombinemia; patients with asthma or other allergic conditions; concomitant use with anticoagulants, uricosurics, other non-narcotic analgesics, hypoglycemics, alcohol, methotrexate.
none, except rare hypersensitivity	CONTRAINDICATIONS	salicylate sensitivity, active peptic ulcer
no known risk	IN PREGNANCY	risk of anemia, hemorrhage, delayed or prolonged labour, increased risk of intracranial hemorrhage in premature infants, premature closure of the ductus arteriosus
no specific risk	IN CHILDREN	specific risk of intoxication using therapeutic dosage in febrile and dehydrated children
rare equivocal reports of reversible liver function abnormality at high dosage	HEPATIC TOXICITY	reversible hepatitis in apparent risk groups at high dosage
equivocal	ANALGESIC NEPHROPATHY	equivocal
oral anticoagulants (as above) chloramphenicol (increased half life)	DRUG-DRUG INTERACTIONS	oral anticoagulants, uricosurics, non-steroidal anti-inflammatory agents, oral hypoglycemics, corticosteroids, ethyl alcohol, methotrexate
ACUTE OVERDOSE		
potentially serious	CLINICAL RISK	potentially serious
supportive management and/or specific antidote (N-acetylcysteine)	TREATMENT	supportive management — no specific antidote

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*Dr. Bill Bedford, Dept. of Health and
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*Ms. Pat Johnson, Canadian Dental
Hygienists' Association*

This paper presents an overview of dental manpower in the four western provinces. The information has been obtained from discussions with the presidents and registrars of the Canadian Dental Association Corporate Bodies in Manitoba, Saskatchewan, Alberta and British Columbia. In addition, certain periodontal information is presented based upon changing concepts in the pathogenesis of inflammatory periodontal disease and likely trends in diagnostic and therapeutic approaches to the disease.

In the last ten years the number of dentists in Western Canada has increased at a significantly greater rate than increases in population. While it is recognized that there are dangers in using dentist to population ratios in manpower analysis, the changing ratios, in conjunction with clear trends of decreasing dental disease, support the proposition that there is a manpower problem.

Busyness (in reality lack of busyness) is

a major concern to practising dentists in these provinces. The lack of busyness is recognized by gaps in office appointment books and the development of satellite practices. This latter is a significant factor in manpower distribution and means that many communities which cannot support a full time dentist still receive regular dental services. Some practitioners have delayed otherwise planned retirement because decreased busyness has translated into inability to reach retirement goals. Such a situation contributes further to the size of the manpower pool. In Manitoba and Saskatchewan the presence of government sponsored aspects of dentistry has a significant impact on private dental practice.

British Columbia has the most sophisticated statistical information on dental treatment provided by private practitioners. The figures from that province show a massive decrease in all aspects of treatment related to dental caries. With dramatic drops in caries rates there is a dramatic decrease in numbers of extractions and decreasing need for fixed or removable prosthodontics to replace missing teeth. Taken in conjunction with the development of new restorative materials, which means longevity of existing restorations continues to increase, there can be little doubt that the quantity and complexity of restorative dental treatment will continue to decrease.

Periodontal Considerations

For many years, periodontitis was considered the inevitable progression of gingivitis. Current information, however, indicates that inflammatory periodontal disease is cyclic in nature and many cases of gingivitis never progress to periodontitis. Even when periodontitis is present, many periodontal pockets show no increases in probing depth over prolonged periods of time.^{1,2} These facts mean considerable changes will occur

in the treatment of inflammatory periodontal diseases. Pocket elimination, and the often complex surgical treatment associated with it, will be less of a feature. Greater emphasis will be placed on removal of infection (plaque and calculus), with simple flaps for access if necessary.

Intense interest has centred on the microbiology of inflammatory periodontal diseases.^{3,4} Microbiological sampling of periodontal pockets is beginning to be used in the diagnosis of certain inflammatory periodontal conditions. Application of these findings to therapeutic regimens includes the selective use of antibicrobial agents. Anti-plaque mouthrinses exist and will be developed further.⁵ Future research can only lead to more accurate diagnostic techniques, more selective and highly specific treatment procedures, more effective preventive measures.

There is little evidence to suggest a need for periodontal treatment will fill the void created by the decline in caries.

Manpower Planning

The Symposium has had discussions of dental disease in different cohorts of the population. The elderly (over 65) receive less intensive dental treatment at present than other cohorts. This group has considerable prosthetic treatment needs and certain proportions of the cohort have root caries and inflammatory periodontal problems needing varying amounts of treatment. Although there is unmet treatment need in this group, information received earlier by the Symposium indicates it can be absorbed with ease by existing manpower.

The second patient cohort is aged 30-65. Generally this group has experienced moderate dental disease but much of it has been treated. Ongoing treatment needs predominantly involve replacement of dental restorations and treatment of inflam-

matory periodontal disease. The cohort represents significant dental treatment requirements both at the present time and as it becomes the over 65 cohort.

The third cohort, those patients under the age of 30, have much less dental decay and inflammatory periodontal disease than any previous group of that age. A most important consideration is what further dental disease can be anticipated in this cohort as it enters the second and third cohort ages. All evidence points to relatively little dental treatment needs on an ongoing basis.

If dental health in the present under 30 age cohort is good, one must also ask what will be the dental health of the cohort which will assume the under 30 age position when the present cohort has entered the 30-65 age group? Surely dental disease will be even less of a problem for this group and the impact on manpower planning is significant.

Just as there are dental population cohorts it is important to consider the concept of dental manpower cohorts to meet the treatment needs of the population cohorts. It is clear that the quantity of complex dental treatment for which the current dentist is trained will continue to decrease. Even if there are increased periodontal treatment needs (as suggested by Douglass

and Gammon⁶ — but also questioned by both Drs. House and Lewis), the mix of dental manpower skill levels must change. Dental manpower cohorts increasingly must have decreased numbers of dentists with increased numbers of other personnel trained to less sophisticated levels.

If there is to be a truly integrated approach to training of dental manpower, then dental training institutions should be responsible for all levels of training. If it is considered that dentists will continue to be trained separately from other dental health personnel, the inevitable conclusion is a reduction in enrolment for dental faculties. For the faculties to maintain viability, however, a minimum number of faculty members must be present. This suggests that it is more appropriate to reduce the number of dental faculties rather than attempt across the board reductions in the size of each of the dental faculties in Canada.

Undoubtedly it is a complex and delicate process. It requires integrated planning which should be undertaken now. It is also important to realize that there may be some unforeseen trend which requires increasing dental manpower in the future. The system should be kept flexible enough to allow such needs to be met if they do arise.

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DENTIST HELP THYSELF

John C. Gillies,

Executive Director, Ontario Dental Association, to the CDA Manpower Symposium.

I do not intend to add to your burden of knowledge by citing more data on manpower. I do hope however, to challenge your intellect and your conscience by talking about *mind* power rather than *manpower*.

The problems being faced by dentistry in Canada today are *not* the result of having too many dentists. In fact, on the basis of demand for dental care, there are *fewer* dentists in Ontario in 1985 than there were in 1980.

In a 1980 Gallup poll, it was determined that 55 per cent of the Ontario population surveyed visited a dentist in each of the preceding two years.¹ This meant one dentist for each 1049 patients.

In a similar survey done in 1985², 70 per cent of Ontario residents reported seeing the dentist every year. Even with the increase in the numbers of dentists and in the over-all population, the ratio of dentists to patients was reduced to 1 to 1,192. This is an increase of 143 patients for every licensed dentist in Ontario.

If the number of dental patients is grow-

ing faster than the number of dentists, where then is the problem?

In my view, the problem lies in the minds of members of the dental profession. Don't misunderstand me. Just because I feel that the problem lies in the minds of our members it doesn't mean that it is not a real problem. The problem however is not one of manpower but of fear. A vast number of our members are fearful that their future is changing and that they have little control over these changes.

However some members, in response to this fear, are taking action in efforts to change their particular future.

The manifestation of this fear relates to attitude, behaviour and economics and I believe that they are totally inter-related.

For the most part, I believe that dentists, like most other professionals, measure personal success in terms of economics. Individual dentists know that if there are more dentists available to serve a static population base, the law of averages says that each dentist will have fewer patients.

Some dentists have been seeking and, I might add, finding ways to increase their patient base, frequently at the expense of colleagues. This has resulted in the development of closed panel capitation systems, group discounts, so called retail dentistry and other schemes designed primarily to capture a segment of the market.

Other dentists have made positive efforts to maintain the patient base that they have by offering convenient office hours, extended payment terms, music or even by talking to their patients and showing them how to achieve a higher dental health status.

Some dentists of course do both of the above.

You must know that the public appreciates all of these things and the response has been a significant increase in the number of regular patients.

What does this mean to the current dental market-place and where does it lead us for the future?

Before discussing this, we must examine some of the current market forces.

In the good old days, a young dentist graduated, moved into an office and started treating patients. His office was located almost anywhere in Canada where he wanted to be. It was equipped and furnished by dental supply houses, funded by banks or leasing companies which were anxious to do business with a new young professional and a small announcement in the local newspaper brought an almost immediate flow of patients to the office. This flow of patients of course was frequently supplemented by other dentists in the community who were too busy to take new patients and who referred them to their new colleagues.

-
1. Ontario Adult Dental Visits — Priorities, Attitudes, Insurance (1980), December 1980, D.W. Lewis, Dental Health Care Services Research Unit, Faculty of Dentistry, University of Toronto.
 2. The Dental Awareness Program Report, undated, Canadian Dental Association.

You are all aware of the current situation for new grads so there is no need to describe them.

But how does this relate to the numbers I gave you earlier? Why should times be so tough when the numbers of patients are increasing faster than the number of dentists?

The answer is simple. The dental health status of our population has changed dramatically and so has the productivity of the dental office.

Few offices can rely on kids with cavities and adults with emergencies to maintain a constant patient flow.

Dentists accustomed to working in millimetres are now also working in milliminutes and are seeking ever higher rates of production efficiency.

Patients are no longer acquiescing to whatever treatment and fees the dentist proposes, but as individuals are questioning the dentist and are banding together in groups to obtain consumer power.

Let's face it, the public does not like dentistry and as we have told them in every form of media that there are many dentists not as busy as they would like to be, the public knows they now have a choice of providers and are threatening to exercise this choice unless they get concessions.

We are seeing this happen.

Dental insurance has had a profound influence on this. We don't as yet know the extent of the impact of insurance on dental health status but we do know that insurance has tended to shift market-place power from the providers to the consumers of dental care.

The consumer side of what are basically group purchase arrangements is having an impact on fees, office procedures, the nature of care provided and even practice configurations. Individual dentists are no longer the monarchs of their market-place.

Patients are now questioning fees and treatment plans and such things as office hours and appointment scheduling. In order to maintain a relationship with these obnoxious patients, dentists are actually talking with them rather than dropping them from their recall lists.

It's interesting, a 1983 American study indicates that the public expects to get information on dental health from dentists.³ Yet many dentists prefer to talk about golf to their patients.

Two thirds of Canadians consider dental care unreasonably expensive yet an average Canadian household annually spends less on dental care than on hair care.⁴ The same Canadian study shows that people with higher education and income resent

dental fees the most but it also shows that people who felt that their dentist really cares about them are less concerned with cost factors.⁵

There just has to be a message here for us and I believe that the message is simple.

Every dentist can almost guarantee a successful future practice if he or she will develop the necessary skills to determine what each patient really wants and then respond to that need. We all know that dental health is essentially a behaviour modification process. How many of us are willing to accept that the health of dentistry is the same.

Dentists must stop expecting to solve all of their problems by sending a cheque to their provincial and national association headquarters and expecting someone there to wave a magic wand and solve their problems.

Instead, dentists must examine their professional and personal lifestyle and establish, or in many cases, re-establish some personal priorities.

Remember what I said about micro-minutes? Is it desirable to be so efficient in your practice that you see all of your patients in one day a week?

Are the present rewards of a high volume, high production practice adequate to provide for your future when the patients find that they can get more of their needs satisfied elsewhere?

I am not suggesting that members should return to the days of a barber chair and a foot pedal drill but I would suggest that future efforts at office productivity be directed to finding ways for the dentist to spend more time with individual patients.

As a natural consequence of this opinion I would also suggest that faculties of dentistry and dental associations must increase efforts to provide students and members with the necessary motivation and communication skills so that they can respond to the total needs of their future patients.

The future of dentistry does not rest with government, with the CDA or with any provincial body. In my view, the future of the profession will be determined by the actions of every individual dentist.

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5. *ibid.*

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3. *ibid.*

4. *ibid.*

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DENTAL MANPOWER

AN ATLANTIC PERSPECTIVE

*D.V. Pamenter
Executive Director
Nova Scotia Dental Association*

First I wish to address the Atlantic, and in particular, the Nova Scotia, manpower situation. For many years demand for dental care out paced supply of services. Many areas of the region and my home province were unserved or underserved and dentists had an abundance of patients with many others on waiting lists. This situation began to change noticeably only a few short years ago. In the last four or five years the change has been dramatic, to the point where today a general assessment would suggest that demand and supply have reached parity. This occurred during the time when Dalhousie University graduated 24 dentists per year. As with any region there are locales where demand still out paces supply and others where supply exceeds demand. This will not change rapidly. Dentists will continue to be attracted to major centres for the same reasons the general population is attracted to these centres. In the same vein, dentists are unlikely to locate in remote areas due to practice viability considerations. We are fortunate in Nova Scotia, as we have few remote areas. A manpower report in 1976 suggested that 90 per cent of Nova Scotians lived within 20 miles of a dentist.

Growth in dental manpower supply is known. We know that the number of dentists in Nova Scotia has grown by roughly 20 per cent since 1981 while the population has grown by roughly 4 per cent. This has resulted in the ever popular dentist to population ratio dropping rapidly. Some have suggested that since this measure is still significantly higher than the national average that no real manpower problem exists. I submit that such a suggestion has limited validity. We know average

incomes in Atlantic Canada to be below the national average and we know the level of third party carrier insurance to be below the national average. We therefore have a greater financial barrier to access — a major barrier which may explain why utilization of dental services in Atlantic Canada is the lowest in the country (41 per cent of males, 44 per cent of females). Thus the dentist to population ratio is a most suspect measure and cannot be used comparatively to reflect the demand/supply situation.

The question still remains, "is there a manpower oversupply problem in Atlantic Canada?" Indications are that if one does not exist now, it is not far away. The NSDA membership are reporting, via two non-aligned surveys, trends which are a cause for concern. These surveys covering the period 1980-1984, (one conducted by the NSDA annually and the other conducted by the Atlantic provinces dental manpower committee bi-annually) have shown similar trends. In reply to busyness questions, the numbers reporting "too busy to treat all requesting care" are decreasing while the numbers reporting "not busy enough" are increasing. Fewer hours are being spent at chairside. The number of patient visits are down, as are weeks worked. Auxiliary practice hours are also down and individual and family appointment wait times are decreasing. In addition, new graduates are finding it increasingly difficult to identify locales where an independent practice is likely to be viable. More and more of these new graduates are accepting associateship positions. Dr. Lewis commented that one measure of supply/demand is community satisfaction. In Nova Scotia the number of communities request-

ing the establishment of a practice are sharply decreasing.

These trends are not about to reverse. Annual enrollment at the Dalhousie Dental School has increased since the problem was first suspected, to a current first year enrollment of 40, for the second successive year. The numbers to enter practice over the next four years are known as they are already in the educational process. They will swell the supply side to the point where by 1991 significant oversupply is expected.

If the oversupply situation is not addressed promptly, we are inviting serious problems. Oversupply creates the potential for short term fee increases. Contrary to some economic theory, I suggest a dentist will attempt to maximize income from fewer patients adding to patient erosion. This will, in time, force income expectation reductions. Over-treatment is a distinct possibility. Professional ethics and integrity will, if under constant pressure from financial constraint, succumb to survival.

The public will suffer. In addition oversupply creates waste of the educational facilities which might be put to better use, waste of financial resources as public funds are used to educate a professional who is not in full demand, waste of human resources as an intelligent educated professional plies his craft less than full time when in society's best interest he/she could have chosen another career whose services or products are in public demand.

I think it is imperative that solutions be found and the sooner the better for all concerned. I do not pretend to have all the answers. But I see only three directions. First, reducing supply through enrollment

reduction, will have absolutely no short term effect. The next four years' graduates are already in the system. If the increase in supply is to be constrained, great care must be taken not to over compensate or in the future we will face a different set of problems. The second direction to consider — attempts to increase demand — will not have any marked short term effect either. Those who do not access dental care today appear well entrenched in their position. Altering this position requires altering behaviour patterns. I am not a behavioural scientist but I would suggest that such behavioural modification is a long term project.

Rather, a combination of supply/demand manipulation is required. On the demand side we must begin the process of influencing increased utilization. One aspect is already underway, with the 1985 introduction of the CDA public awareness program. This project with its identified target groups and its goal of increasing awareness in the population of the necessity of dental health as a priority item, requires a long term commitment not only from the CDA, but from all corporate members and their membership. Where manpower maldistribution exists, we must develop projects which will increase patient access to services. Areas of concentration include: remote locales, senior citizen homes and the like. Provin-

cial associations should now be identifying their own areas of concentration and assessing the practicality of various programs to turn dental need into dental demand. We must also re-educate our membership and educate those enrolled in dental schools to give them the necessary tools to effectively communicate with their patients. They must become effective motivators, spurring their patients to strive for the best dental health possible. We must re-educate the membership so they are able to provide services demanded as the patients dental health needs change.

We must also consider the establishment of internal programs to assist our members with their efforts to ensure peak office efficiency. I come from the corporate environment where the well-run business assesses its strengths and weaknesses, improves or eliminates weaknesses and asserts its strengths. We must convince government and its agencies at all levels to place attainment of optimum dental health and dental health education higher on their priority lists. We must convince governments that oversupply is here and that the public will suffer.

On the supply side it must be accepted as the objective that supply be controlled to a level where supply generally equates demand. Until increased demand is being

achieved, a reduced growth in supply is necessary now. Failure to act now will exacerbate current problems. Since the manpower problem is national, programs to alter supply must be national. To establish realistic supply objectives an analysis of current and projected national demand is needed. If we are to reach an optimum supply we must have a clear, concise demand projection. Such a project is feasible if all aspects of organized dentistry will provide the necessary commitment. Such a project would be major in scope, but we have a major problem to be solved. I say it is feasible because I know it is feasible. This type of project is currently underway in Nova Scotia with involvement from government, the profession, dental hygiene and the dental school.

In closing, I must say that the current manpower issue can be viewed in both a negative and a positive light. If viewed negatively you see only barriers. If, however, you view the issue from the positive side you see opportunity; opportunity to maximize human, financial and educational resources; opportunity to significantly improve on the dental health of our population; and opportunity for the profession of dentistry to grow and contribute significantly to our society.

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MANPOWER STRATEGIES

POSSIBLE SOLUTIONS

Dr. A. Schwartz, Dean,
Faculty of Dentistry
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The position of the most important group of all, the people of Canada, has not been presented and, to my knowledge, is not being presented here directly. Indirectly, and without particular emphasis on the consumers' viewpoint, some of their wants and needs have been expressed. More consideration must be given to this largest and most important of all "groups" when we are involved in a discussion of dental needs and wants and are attempting to arrive at acceptable conclusions regarding dental manpower problems.

If I were to have the opportunity to make one statement only, I believe it would be this: Universities (dental schools) are not in existence to serve the needs of the profession, nor are members of the profession there to serve the needs of the universities. The basic reason for our existence, we as practitioners or academics, is to serve the needs of the public — let us not forget that, no matter what type of impact this may have on our own or on our constituency plans and aspirations.

I do not pretend to have solutions to the problem. What I believe I can present are some views which warrant consideration before we do anything to enhance the fragmentation of our profession any further and more quickly than is occurring now.

The manpower problem *must* receive immediate attention from representatives of profession, government, universities and, most important of all public. All we may be able to accomplish from this workshop is possibly to develop a strategy to be expressed on behalf of the profession, which would lead to solutions being developed with the other constituencies, solu-

tions which are practical and could be implemented.

In recent years, there has developed in our population the view that health care is a right. There is expectation that good health care services be available, to everyone.

The professions have an important role to play in making certain that all relevant endogenous factors are included in analyses of statistics presented for manpower planning, and that the correct and proper interpretations of the real and presumed effects are made.¹ For the most part, health manpower planning addresses today's needs and demands as if these factors will somehow remain the same over time. It also often assumes that those needs and demands are precisely measurable. The health profession's role in manpower planning cannot be relegated to others.

Health manpower planning is an area wherein there are no indisputable answers even to simple questions. Most manpower "planning" has been limited to the calculation of simple manpower to population ratios and the comparison of these with standard ratios published as part of the guidelines or regulations associated with one federal manpower placement program or another.¹ While the needs for dental care will remain substantial, *manpower planning must be based on demands for dental care.*

Although demographic changes will exert a big influence on future demand, the economic growth and development of the economy, the prevalence of dental health plans, the range of dental fees and governmental involvement in the payment of dental services also will play a part.

In the profession today, dental schools are being cast as the villains in this drama of supply — demand.² If dental schools cut their enrollments, it should not be solely because the dental profession is pressuring them to do so. Educational institutions are not servants of the profession, as I mentioned earlier. If dental schools cut their enrollment, one reason should be because there are too few applicants of the highest quality.

It is my belief that the academic must be aware of and sensitive to practitioners' views and problems. I believe that the benefits of strong education and research basis are most important to all of us who are involved with dental health care. All dental personnel must be aware of the need to expand our services to the large number of Canadians not currently obtaining care.

Dental schools are a national resource.³ They provide the dental manpower needed in maintaining and improving the nation's dental health. They also have a major responsibility in the area of advanced dental education. Further, by offering continuing dental education courses, they seek to assure the continued competency of practitioners. It is fair to say that most dental knowledge is being generated by the faculty of dental education institutions. Because dental schools serve widely differing communities, it is essential decisions affecting enrollment levels be based on sound rationale and information that is as comprehensive as possible. Maintenance of a high quality educational system is critical to the future of the industry, and the profession cannot advance if its education foundation is permitted to erode. Most dental research in Canada takes place in

dental schools — most of the researchers come from our dental faculties. The future of the profession depends upon the strength of our educational and research facilities. In Canada today, there is a serious shortage of qualified dental educators and researchers.

Dentistry's status as a learned profession absolutely requires the continued excellence of its academic, research, and patient care basis. Maintenance of a high quality educational system is critical to the future of dentistry, and the profession cannot advance if its education foundation is permitted to erode.

Eisner stated⁴ that "the belief that current dental manpower levels should be reduced is prevalent. During the time years that it will take to get answers to this manpower versus market share debate, I am concerned that we do not inadvertently diminish our profession's most valuable assets, its entering students and the faculties which teach them and conduct dental research. Practitioners have a direct impact on the quality of our profession's academic establishment through their control of student quality and faculty quality.

"One can argue logically for a reduction of class size in each faculty while continuing to promote a large and high quality applicant pool. We should encourage all

prospective applicants, and actively recruit those who are intelligent and committed to the goals of our profession."

"Anything less than regular and strong advocacy for equality of incoming students and the financial support for dental faculties will ultimately hurt the quality of our practitioners and graduates and eventually the quality of our profession. I would propose that *all* dentists directly involve themselves in preserving and enhancing the quality of our profession by recruiting good students to our ranks and arguing, both provincially and nationally, for the best possible support of research activities."

The profession of dentistry may be viewed as a battle ground, but it should not be a battle ground among dentists for patients, nor between educator and practitioner.⁵ The battle is to keep dentistry a recognized, highly respected health profession. There are many problems facing us. There are many splinter groups on the horizon, anxious to see a fragmentation of the profession; it is important, therefore, that we attempt to develop proposals which will be in the best interests of the majority of Canadians and which will receive attention at the decision making levels. I hope that we will work toward the action required to cope with our problems in a united, pragmatic manner.

Evidence available to us indicates a continuing demand for dental services. The future for our profession is good, in spite of problems facing us today. By working together, in the best interests of the majority, we will be able to ensure that the profession continues to progress and to be a vital factor in the delivery of excellent health care services and continues to make further significant contributions in education and research.

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Specialty Features

THE ROLE OF GOVERNMENT

Dr. W.R. Bedford
Senior Consultant, Dentistry
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SUMMARY

In order to explain to you where government fits into the dental manpower picture, and how government can help with the manpower question, it is essential that you have an understanding of what government does and how it operates.

The Federal Government, in a limited way, is in the business of providing direct dental services to certain segments of the Canadian population. In so doing, it employs dentists and devotes considerable funds to these programs as shown in Table I.

Department	# of Dentists Employed	Budget
National Defence	162	\$27.9 M
Corrections	4	1.2 M
Veterans Affairs	32	9.3 M
Health & Welfare	26	32.1 M
TOTAL	224	\$70.1 M

Of the noted total of \$70.5 M, approximately half- or \$32 M goes directly to private practitioners for the provision of services. The major portion of that \$32 M (approximately \$24 M) comes from Medical Services Branch for the provision of dental care to the Indian and Inuit population of Canada.

Another thing we do is provide block funding to the provinces to be used for the provision of health care.

The provinces are directly responsible for health care to all of their residents and they divide the pot as they see fit and design programs for the delivery of care.

The total block funding to the provinces for health care is approximately \$8 Billion and of the sum, about \$204 million goes to dental care.

Where Do We Fit?

The Federal Government has a mandate to ensure that national standards for care are set in Canada.

It does this by identifying a need, confirming the need with the profession, arranging for funding, and then approaching the profession to find the most qualified people available to sit on a working group. This working group will study the issue and bring forth recommendations specific to the identified need.

Examples of such working groups are:
The Practice of Dental Hygiene
Preventive Dental Services
Oral Radiological Services
Oral Research

The Working Group on Oral Research is the most recent of these and it was formed because it was determined that dental research in Canada was stumbling and lacking in direction.

As a result, some of the best researchers in Canada were brought together to review where research has been, what research is presently being done, determine the physical research capabilities, and produce a document that will give us a prioritized listing of dental research required for the next 10-15 years. Ultimately, this should result in the most efficient use of available funds for dental research and it is felt that such a document will be of value to researchers on an international basis as well.

The government wants to remain current in the field of dentistry and wishes to assist where possible. An example of this would be in the field of geriatric dentistry. Two years ago the federal government funded a symposium on the subject in London, Ontario, for the academic community to determine where and how the subject could be blended into the current academic schedule.

It is quite possible that another symposium could be funded to allow the profession to explore innovative approaches to geriatric care, as this is currently an area of major concern to government.

I spoke earlier of the Working Group on

Oral Research. Those people in our profession who are involved in research must obtain funding to carry out their activities. There are several avenues to which they can apply — one of which is the federal program called National Health Research & Development Program.

The program sets priority areas in which they are interested and within those areas will provide funding for:

- Research Projects
- Demonstration Projects
- Studies
- Preliminary Development Projects
- Symposia, Workshops, Conferences.

There are certain criteria that must be met to obtain funding and there are dollar limits on the various categories. However, it can be a useful source to tap.

Between 1964-1984, dentistry received \$6 million dollars from this source for a variety of projects.

Now lets take a look at the overall spending in the dental field.

Provincial Government	
Programs	\$ 204 M
Federal Government Programs	70 M
Social Assistance Programs	56 M
Dental/Surgical Payments, Medicare	14 M
	\$ 344 M

If we add to this the dollar output of private group insurance plans, that contributes another \$561 M giving us a grand total of \$900 M or 56% of the total dental dollars spent in Canada.

In summary then, the government is:

- 1) An employer of dental manpower;
- 2) A significant contributor in the form of dollars for service to private practitioners;
- 3) A support mechanism to the profession to assist in researching new avenues for dentistry to pursue.

Specialty Features

STATEMENT PRESENTED

BY THE CANADIAN DENTAL
HYGIENISTS' ASSOCIATION
AT THE
CANADIAN DENTAL ASSOCIATION
MANPOWER SYMPOSIUM

Pat Johnson, RDH, BSc(D), MSc

Dental hygiene was introduced into the health care system in Canada over 35 years ago. Initially few in numbers, there are now more than 5,000 dental hygienists distributed throughout the country. In 1983, 81 per cent were actively working at dental hygiene.¹

The primary focus of dental hygiene practice is the prevention and control of dental disease. As has been noted, in industrialized countries such as Canada, there has been a decline in dental caries with a corresponding recognition of periodontal disease as a major health problem.^{2,3} The changing trend in service need and demand is illustrated in **Table 1** which presents projections developed by Douglass and Gammon.⁽¹⁾ According to these projections, by the year 2001 the demand for basic periodontal and preventive services is expected to exceed the demand for both operative and advanced periodontal services combined. The services provided by dental hygienists are the very services which will be required to meet changing dental health care needs.

Dental hygiene is as viable now as it was when it was first created in spite of myths to the contrary. For example, the myth of a high attrition rate for dental hygienists has been dispelled by a number of studies.^{4,5} Further, there is currently no evidence of an excess supply in either small communities or metropolitan centres. The number of dental hygiene graduates should continue to be monitored in the context of future need and demand and of efficiency in the provision of services. An inadequate supply of dental hygienists may occur if the demand for periodontally-related services is stimulated. Should it be considered appropriate to adjust the supply of dental hygienists, we recommend a moderate approach. Excess numbers of dental hygienists can be avoided by alternating intake years or by temporarily reducing class size. These measures are less disruptive to supply and demand requirements than are program closures. Program closure usually is irreversible and program initiation is extremely costly.

Given the purported increasing awareness of health and the willingness of the population to take more responsibility for their own

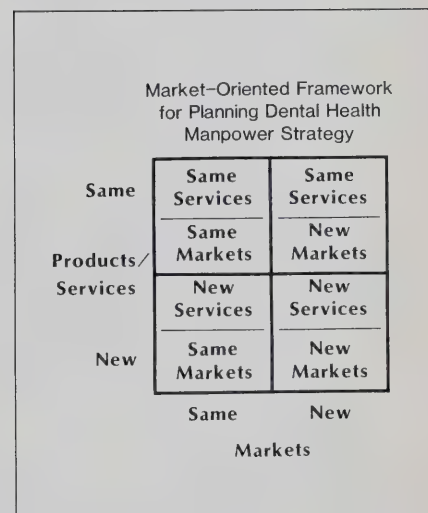


Figure 1

well-being, this is an opportune time for the dental health professions to reach out to and generate increased demand for dental health services. Within the context of the problems identified by symposium speakers, opportunities do exist.

When faced with the declining demand for their products or services, other organizations and professional groups have analyzed their difficulties using the framework outlined in **Figure 1**.⁶ This framework can be utilized in the analysis of dental health manpower problems. Generally, dental health professionals have done a good job of offering traditional services to traditional client groups, and, to a certain extent, offering new services (in the form of clinical advancements) to these same client groups.

One set of opportunities lies in delivering traditional services to non-traditional client groups: seniors; residents of hospitals, group or institutional homes; physically and mentally handicapped individuals; natives and those Canadians who live in remote communities. There are opportunities for practitioners to serve these client groups — there is no “oversupply” in these sectors. Dentists and dental hygienists must consider career options other than urban private practice.

Another set of opportunities lies in the development of new services — both for the traditional and non-traditional markets. As periodontal disease emerges as the primary dental health problem in our country, there will be an opportunity to develop and offer new types of educational and self-help programs to the public. With expertise in both health education and health promotion, dental hygienists can play an important role in collaborating with dentists to develop cost-effective educational and self-care programs.

Dentists, with their more extensive education, could alter their roles to include more managerial, diagnostic and complex operative functions. Procedures traditionally associated with prevention of periodontal disease and dental caries, such as scaling and root planing, application of sealants and

fluorides, and patient education, overall have not constituted a major portion of procedures performed by a dentist. Such services are delivered more cost-effectively by allied types of personnel.⁷⁻¹⁰

Although talked about more and more frequently within dental circles, “marketing” is a concept which still is not well understood or effectively implemented. Our professional associations must help practitioners gain a more comprehensive understanding of marketing processes and strategies and lead the way in stimulating demand for services in a professional and socially responsible manner. The “dental awareness campaign” being conducted by the Canadian Dental Association is an important step in this direction.

As practitioners begin to adopt a marketing orientation to their practice development, new roles for all members of the dental health team will emerge. Dental hygienists have the educational background and skills to become effective marketing agents for the practices with which they are affiliated.

Although presentation of the merits of relaxing supervision requirements for dental hygienists may seem out of context in this discussion of the value of marketing approaches to these problems, it does fit. Dental hygienists providing preventive services in institutional, remote or other settings will identify many dental treatment needs. They are able to facilitate the process of having these needs met.

There appears to be room for a more collaborative role between the dentist and dental hygienist in the provision of dental hygiene care within the context of an overall dental treatment plan. Changes in supervision requirements, such as have been implemented in some jurisdictions, are necessary to facilitate this collaborative

approach. For example, general supervision would permit the dental hygienist to function in a preventive and case-finding role in non-traditional and traditional settings. Theoretically, beneficiaries would include the current market, those currently underserved segments of the market as previously identified, and practitioners who seek to extend service to greater numbers of clientele.

In concluding, we acknowledge the interdependence of dentistry and dental hygiene. The problems, challenges and solutions regarding the dental health trends discussed at this symposium are equally as important to the profession of dental hygiene as they are to the profession of dentistry. The Canadian Dental Hygienists' Association appreciates the invitation to present our views at this conference and looks forward to the opportunity to participate in planning for the future.

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TABLE 1

Dental Services Effectively Demanded in Thousands of Hours Among Canadians, 1981 vs. 2001 (Douglass & Gammon, 1985)

Service Effectively Demanded	Hours (in 1000's)		
	Dentist	Hygienist	Total
1976			
Operative	5,444.9	72.9	5,517.8
Advanced Periodontal	272.2	25.5	297.7
Periodontal + Preventive	1,447.2	1,547.2	2,994.4
1981			
Operative	6,479.1	140.5	6,619.6
Advanced Periodontal	324.0	49.2	373.2
Periodontal + Preventive	1,722.1	2,981.5	4,703.6
2001			
Operative	9,186.2	476.8	9,663.0
Advanced Periodontal	459.3	166.9	626.2
Periodontal + Preventive	2,441.6	10,119.5	12,561.1

PROPHYLACTIC ANTIBIOTIC COVERAGE AND THE CARDIAC PATIENT HOW TO IDENTIFY THE "AT RISK" PATIENT

C. Kilmartin, BDS, MSc, DDS, FRCD(C)*
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ABSTRACT

It is probable that at least 5 per cent of patients attending dental offices may need antibiotic coverage to prevent Infective Endocarditis. This article discusses the appropriate ways to identify and assess the at-risk patient.

SOMMAIRE

Selon toute probabilité, au moins 5 pour cent des patients visitant le dentiste peuvent avoir besoin d'antibiotiques pour prévenir une endocardite infectieuse. Dans cet article, il est question des façons appropriées pour repérer les patients présentant des risques et les évaluer.

INTRODUCTION

Several studies^{1,2,3} have indicated that at least 5 per cent of patients attending dental offices may need antibiotic coverage to lessen the possibility of developing infective endocarditis (I.E.). A recent study⁴ in the New England Journal of Medicine indicates

that between 0.3 to 21 per cent of the general population may have mitral valve prolapse, with the best estimate being close to 4 per cent. Tullman and Redding⁵ quote a prevalence of 8-10 per cent in females and a somewhat smaller percentage in men. Other studies^{6,7} have shown that approximately 2 per cent of the general dental population have had rheumatic fever. In addition, patients with congenital cardiac defects (e.g. bicuspid aortic valve, estimated at 1 per cent)¹¹ prosthetic heart valves and other special cardiac conditions (vide infra), will also require antibiotic coverage. This means that a significant number of our patients now require appropriate antibiotic therapy prior to treatment. Consequently, it is necessary that dentists should understand when antibiotic coverage is required for their patients and why.

How to Identify "At Risk" Patients

Because many patients now admit to having a heart murmur, it is necessary that all dentists have a clearly defined protocol to handle these cases and to identify "at risk" patients. To this end, it is suggested

FIGURE 1

1. Take an adequate medical history
Ask about 1) rheumatic fever
2) heart murmurs
3) hospitalizations
4) other serious illness
2. Clarify any vague replies through consultations with patient's physician.
3. Update this history frequently.

that the three steps summarized in Fig. 1 be followed on all patients.

1. Take an adequate medical history
Ask about 1) rheumatic fever
2) heart murmurs
3) hospitalizations
4) other serious illness
2. Clarify any vague replies through consultations with the patient's physician.
3. Update this history frequently.

An adequate medical history must include an inquiry about the possibility of hospitalization, heart murmurs, rheumatic fever or other serious illness. In this way, it should be possible to identify most patients with diagnosed cardiac abnormalities requiring

antibiotic prophylaxis. Sometimes, in the course of taking the patient's medical history, vague episodes of "prolonged growing pains", chorea, St. Vitus dance, are uncovered. It is wise to *clarify* these vague histories through consultation with the patient's physician and to establish definitively the presence or absence of Rheumatic Heart Disease (Rh.H.D.). As an aid in the diagnosis of valvular abnormality, a physician may recommend that his patient have an echocardiogram. Clinical echocardiography uses pulsed sonic waves of 2 to 3 million cycles per second (ultrasound). This can provide the ability not only to record intracardiac anatomy but also to assess the motion of the cardiac structures as they alter their positions during the cardiac cycle.¹¹ Having taken an adequate medical history, the dentist must *update* it frequently to see if any changes have taken place in the patient's cardiac status. In the interim, a cardiac murmur may have become audible to the patient's physician, thus necessitating further investigations and possibly antibiotic prophylaxis. Questioning the patient in this manner and consulting with the physician, is the best that can be done to detect patients at risk.

1. Heart Murmurs

Heart murmurs are basically divided into 2 types 1) functional (benign, innocent, nonpathological) and 2) organic (pathological). Tullman and Redding⁵ define an innocent murmur as one in which "there is a turbulence to normal, smooth laminar flow by some process that causes no haemodynamic consequences and is neither associated with any significant underlying pathological process nor is likely to cause any morbidity or mortality in the patient." These benign murmurs do not require prophylaxis. Organic murmurs are the result of some abnormality of the valves or other cardiac structure and will almost always require antibiotic coverage according to the AHA regulations,⁸ if gingival bleeding is anticipated.*

Having established that the patient has a heart murmur, it is generally wise to consult with the patient's physician to clarify the exact nature of the murmur and whether prophylaxis will be necessary. Unless the patient has a clear understanding of the nature of his heart murmur, it is usually preferable not to rely only on what the patient tells you. Some physicians, in an attempt at preventing the development of a "cardiac neurosis" tell their mitral valve prolapse (M.V.P.) patients that they have

a "mild heart murmur". While this may be true in terms of their prognosis and physical capabilities, a dentist would be unwise to accept this evaluation, as I.E. has occurred in M.V.P. patients.¹² Despite the fact that M.V.P. is judged as an intermediate²³ or low risk⁸ condition for the development of I.E., prophylaxis is recommended for these patients because recent studies^{4,10} have shown it to be present as the underlying cardiac disease in approximately 25 per cent of patients with I.E. Mitral valve prolapse is usually an incidental finding on routine medical examination of an otherwise healthy patient.

2. Rheumatic Fever

Patients who have had rheumatic fever may go on to develop rheumatic heart disease (Rh.H.D.) in which case antibiotic prophylaxis is required. If there is no evidence of Rh.H.D. (documented by a physician frequently with the help of an echocardiogram) then no prophylaxis is required.^{5,13,14,15,16,17,19,29} In emergency situations, when the patient's physician cannot be contacted, it is prudent to give antibiotic coverage to all patients with a history of rheumatic fever. For elective procedures, the patient's physician should be consulted regarding the presence of Rh.H.D. If there is no evidence of this, but a high risk procedure is proposed (e.g. extractions, gingival curettage, periodontal surgery — especially in the presence of inflammation) it is appropriate to stress this to the patient's physician so he can evaluate the need for an echocardiogram or for referral to a cardiologist for an opinion.

3. Hospitalization — Cardiac Surgery & Prosthesis

An inquiry about previous hospitalization and heart murmurs should help to identify the patient with congenital heart disease, prosthetic valves, pacemakers and prior cardiovascular surgery. One effect of either palliative or corrective surgery on the *congenital heart patient* is to reduce the risk of endocarditis, but not necessarily to abolish that risk (with the exception⁸ of (1) Isolated secundum atrial septal defect (2) Secundum atrial septal defect repaired without a patch, six or more months earlier (3) Patent ductus arteriosus ligated and divided six or more months earlier). This happens because of the frequency of multiple congenital cardiac defects. If a comparatively minor lesion is still present after correction of the major one, the patient may still be at risk for I.E.¹⁸ Therefore, consultation with the patient's cardiologist prior to any contemplated dental procedure is necessary to confirm the patient's cardiovascular status and the need for antibiotic prophylaxis.

Many patients with serious valvular dis-

ease may have had their damaged valves replaced with *prosthetic valves*. It is common for these patients, especially those with mechanical valves, to require long-term anti-coagulant therapy with its complications.^{5,8} As potential candidates for I.E., they are described as "high risk" or "highly susceptible patients"⁹ who would seem "not only to experience a greater risk but in whom the consequences of I.E. are potentially more serious". Patients with a history of prior I.E. may also fall into this category.⁹ The AHA⁸ recommends a special regimen (ampicillin plus gentamycin I.M. or I.V.) for patients with a prosthetic heart valve and for patients with surgically constructed systemic-pulmonary shunts who require "extensive dental procedures especially extractions or oral or gingival surgical procedures". They suggest that some patients with a prosthetic valve in whom a high level of oral health is being maintained may be offered oral antibiotic prophylaxis for routine dental procedures.

Generally accepted indications for *coronary bypass surgery* are angina, not responsive to medical therapy, and severe obstruction of the left coronary artery.²⁷ Most grafts are performed by taking a section of saphenous vein and anastomosing to the aorta and to the involved coronary vessel distal to the stenotic lesion. Except for the immediate post-operative period these patients do not appear to be susceptible to bacterial endocarditis and hence require no prophylactic antibiotic coverage for dental procedures,^{8,19} unless another cardiac defect is present. The cardiac status should be established through consultation with the patient's physician before any dental treatment is performed.

*Arterial grafts*²⁸ are used to replace segments of large arteries such as the aorta, that have become involved with an aneurysm or severe atherosclerotic disease. The material most commonly used for the graft is dacron. Synthetic grafts appear to be much more susceptible to infection than autogenous grafts.

Infections of arterial grafts (in place for more than six months) appear to be uncommon and antibiotic prophylaxis is not usually recommended after this period of time. However, because small areas of incomplete pseudointimal lining may be present in older synthetic grafts which would render them susceptible to bacterial infection, the final decision concerning antibiotic coverage should be made in consultation with the patient's physician.

The 1984 report by the AHA committee on rheumatic fever and endocarditis⁸ stated that indwelling *transvenous cardiac pacemakers* appear to present a low risk of bacterial endocarditis but left it open to the

* It is recognized that although bleeding is generally used as the criterion for antibiotic prophylaxis, the actual bacteraemia is the result of specific procedures which are discussed in a subsequent article.

dentist and physician to choose to employ prophylactic antibiotics to cover dental work. Electrical equipment, such as cavitron, electric cautery, vitalometers, etc., should not be used on these patients because of possible interference with the function of the pacemaker. Animal studies have shown that any dental equipment that applies an electric current directly to the patient may cause interference with "pacemakers". Some patients with pacemakers will have heart failure and coronary artery disease. Therefore, the presence of a permanent pacemaker should alert the dentist that other cardiovascular problems may be present requiring investigation and consultation with the patient's physician.²⁷ For more complete information on these topics, the reader is referred to references 8, 27, and 30.

4. Other Serious Illness

The enquiry about "other serious illness" and hospitalization may reveal a patient who has had I.E., systemic lupus erythematosus (S.L.E.) or syphilis S.L.E.¹⁶ and syphilis can rarely produce structural abnormalities of the heart or blood vessels necessitating antibiotic prophylaxis. Bayliss²⁶ et al found in a U.K. survey of 544 cases of I.E. that 22 per cent of cases had no known cardiac abnormality before their illness. They found that patients who were drug addicts or immunosuppressed, or those on chronic dialysis usually had normal hearts before their I.E. developed. This increased susceptibility to infection may be the result of the underlying systemic disease, and was most evident in immunosuppressed patients and chronic alcoholics.²⁴ Obviously it is not possible to identify and provide antibiotic prophylaxis for patients with undiagnosed cardiac abnormalities. However, the findings of Bayliss et al raise the question of whether it is appropriate to consider cardiac antibiotic coverage for immunosuppressed patients requiring high risk dental procedures (e.g. extractions) particularly in the presence of infection. This may merit discussion with the patient's physician.

Conclusion

Infectious endocarditis is a rare but serious disease which can result in the patient's death or major disability. Taking an adequate medical history takes a short time and will result in significant benefits to both patient and dentist. To date, compliance with guidelines for prevention of I.E. has been low.^{22,25} It is to be hoped that the revised recommendations⁸ will encourage both dentists and patients to improve this situation.

The second article in this series will deal

with the rationale for antibiotic prophylaxis and its administration, and the dental management of cardiac patients requiring antibiotic prophylaxis.

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INTRAORAL PLEOMORPHIC ADENOMA

REPORT OF A CASE PRESENTING IN AN UNUSUAL LOCATION

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ABSTRACT

A case of pleomorphic adenoma arising in an unusual intraoral site is reported. A rational clinical approach to intraoral soft tissue tumours is suggested, based on the incidence and biologic behaviour of salivary gland neoplasms.

SOMMAIRE

On rapporte le cas d'un adénome pléomorphe se développant à un endroit inhabituel à l'intérieur de la bouche. On suggère une approche clinique rationnelle pour traiter les tumeurs des tissus mous intrabuccaux en se basant sur l'incidence et le comportement biologique des néoplasmes des glandes salivaires.

Pleomorphic adenoma (mixed tumour) is the most common benign minor salivary gland neoplasm.¹⁻⁴ Ranger et al,³ in one of the earliest sizable studies, reported an incidence of 51 per cent in a series of 80 salivary gland tumours, while Chaudhry et al¹ reported an incidence of 56 per cent in 1,414 cases of intraoral minor salivary gland tumours. Rauch and associates⁵ review of over 4,000 pleomorphic adenomas suggests that only 6.5 per cent occurred in the minor salivary glands of the upper aerodigestive tract.

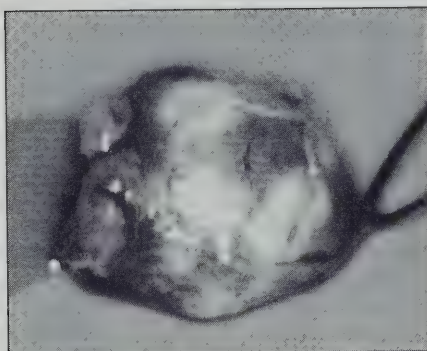


FIG. 1: The excised surgical specimen exhibiting an apparently intact fibrous capsule and two adherent normal salivary gland lobules.

Pleomorphic adenomas may be found in patients of any age, ranging from 6 to 85 years, although most cases occur in patients in the 40-50 year age group.¹⁻⁴ Intraoral pleomorphic adenomas arise most commonly from palatal glands, followed in frequency by glands of the upper lip and buccal mucosa, but salivary glands from any oral site may be affected.^{1-4,6-8} These neoplasms most commonly present as painless, slowly growing masses. This paper reports a case of pleomorphic adenoma presenting in an unusual location and discusses the necessity of proper surgical management of all seemingly innocuous oral soft tissue masses.

CASE REPORT

A 27-year-old, healthy, Caucasian female was referred to the Dalhousie University's Mouth Clinic for diagnosis of a firm, mobile, submucosal nodule apical to the maxillary first bicuspid, high in the buccal vestibule. The overlying mucosa was non-ulcerated and had normal surface characteristics. The asymptomatic lesion was 7-8 mm in diameter. The patient's dentist had detected the lesion only three to four weeks earlier. The clinical differential diagnoses included lipoma, lipofibroma, schwannoma, neurofibroma and irritation fibroma.

A 3-cm semilunar incision was made with its base in the attached gingiva near the mucogingival junction and a full thickness flap was raised. The tumour was easily excised by blunt dissection and submitted for histopathologic examination. The lesion consisted of an apparently encapsulated soft tissue nodule, 1 cm in diameter (**Fig. 1**).

Microscopic examination of the specimen revealed a completely encapsulated tumour exhibiting many duct-like structures. Moderate numbers of epithelioid and plasmacytoid cells were seen scattered throughout the delicate fibrous connective tissue stroma. Ossified tissue comprised roughly one-fifth of the total tumour volume (**Fig. 2**). Occasional mucous and fat cells were also observed. The pathologic diagnosis was pleomorphic adenoma. There has

been no clinical evidence of recurrence 18 months postoperatively. The patient is on a long-term, six-monthly follow-up schedule.

DISCUSSION

The frequency with which neoplasms occur in major and minor salivary glands has been observed to be proportionate to the size and number, i.e., volume of the glands.¹ The parotid, having by far the largest volume of normal glandular tissue, thus is the site of 80 per cent of all salivary gland neoplasms.⁹

The relative rarity of intraoral salivary gland neoplasms, especially those which occur in sites other than the palate, is offset by the fact that approximately half of these are malignant.^{4,6,8} It is obvious, therefore, that any seemingly innocuous intraoral soft tissue nodule is a potential malignant salivary gland neoplasm.

The neoplasm described in this report is unusual in two respects. Firstly, its location high in the posterior maxillary vestibule is an uncommon site for salivary gland neoplasms. Although, as defined in the dental literature,¹⁰ the "buccal mucosa proper" is distinct from the "buccal sulci" or vestibules, the medical literature frequently fails even to distinguish between "buccal mucosa" and oral mucosa in general. Despite this confusion, the authors felt that this lesion was unusual in that it presented deep to the vestibular fold, beyond the usual distribution of buccal and labial mucosal minor salivary glands. Secondly, the presence of small foci of bone in pleomorphic adenomas is also rare,^{9,11} although foci of calcification are common. The tumour described herein is exceptional in that approximately one-fifth is bone. Thackray and Lucas⁹ suggest that ossification occurs in pleomorphic adenomas of long duration. The short clinical duration and relatively young age of the patient described in this report do not support their

concept. Ossification may be related to the presence of increased vascular ingrowth into cartilagenous areas, mimicking the situation observed in endochondral ossification as suggested by Evans and Cruickshank.¹¹ Alternatively, ossification may be related to inductive influences of the tissues surrounding the tumour, especially in young individuals.

The high post-surgical recurrence rate associated with pleomorphic adenomas of the parotid raises questions regarding the proper surgical approach to their intraoral counterparts. Recurrence of parotid neoplasms has been attributed to overly conservative "extracapsular" enucleation.⁹ This results in portions of the tumour, which "herniate" through an incomplete fibrous capsule, being left behind. This herniation phenomenon and the attendant recurrence or, more accurately, persistence, does not appear to be significant intraorally.

The other major factor involved in the persistence of pleomorphic adenomas of the parotid is tumour spillage subsequent to incisional biopsy.⁹ Tumour is inadvertently "seeded" along the plane of incision between the skin and the original tumour, resulting in one or more new foci of tumour growth. This problem has largely been circumvented by the adoption of "open biopsies" which use the same surgical approach as required for the definitive parotidectomy procedure. The appropriate diagnostic approach to palatal tumours, when size precludes easy total excision, is incisional biopsy. When the pathologic diagnosis of pleomorphic adenoma is established, definitive surgical management includes the excision of the original biopsy site, thus effectively dealing with potential "seeding" complications.

Finally, a low percentage of pleomorphic adenomas have been observed to undergo malignant transformation.¹² The recommended follow-up period for patients with

salivary gland neoplasms is 20 years, rather than the usual 5 years⁹. This is based on the sometimes very slow growth rate of even malignant salivary gland neoplasms.

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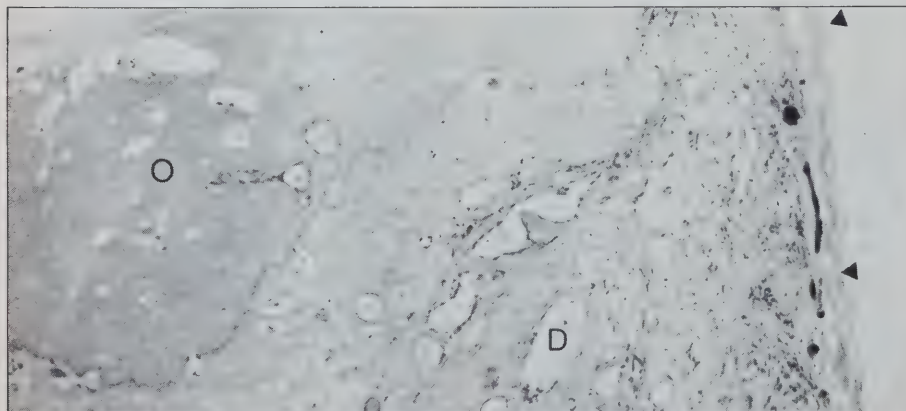


FIG. 2; Photomicrograph of a portion of the neoplasm exhibiting numerous ducts (D) and large areas of ossification (O), all surrounded by a well-defined, uninterrupted capsule (arrowheads). (Original magnification, X25.)

THE DENTAL MANAGEMENT OF THE CARDIAC PATIENT REQUIRING ANTIBIOTIC PROPHYLAXIS

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ABSTRACT

In this article, the concept of patients at higher and lower risk of developing Infective Endocarditis is discussed. Treatment planning modifications which may be necessary for these patients, are discussed and recommendations for specific situations are developed. These are primarily applicable to lower risk patients, treated in a general practice situation.

SOMMAIRE

Dans cet article, il est question des patients qui risquent peu ou fort d'avoir une endocardite infectieuse. Il est question également des modifications qu'il faudra peut-être apporter au plan de traitement et on offre des recommandations pour des situations précises. Celles-ci sont valables principalement pour les patients présentant des risques peu élevés et soignés dans un cabinet ordinaire.

INTRODUCTION

Once it is established that a patient needs antibiotic coverage, the dentist should know that several levels of risk for endocarditis have been identified. (Figs. 1, 2) The most recent guidelines from the American Heart Association⁴ identify two major categories of risk, with the standard regimen being used for the lower level. (Fig. 3) Worldwide, attempts have been made to identify

different levels of risk, for specific cardiac conditions, but no consensus has been achieved. Most authorities agree that prosthetic valve patients fall into the high risk category.^{1,2,4} The Australian Heart Association² describes this group as one who would "seem not only to experience a greater risk but in whom the consequences of infective endocarditis are potentially more serious".

The AHA⁴ favors the use of parenteral prophylactic antibiotics for those patients at particularly high risk of infective endocarditis. (Prosthetic valve patients and patients with a surgically constructed systemic-pulmonary shunt.) Some patients with a prosthetic heart valve in whom a high level of oral health is being maintained, may be offered oral antibiotic prophylaxis for routine dental procedures. Parenteral antibiotics are recommended however, for patients with prosthetic valves who require extensive dental procedures, especially extractions or oral or gingival surgical procedures. This may necessitate referring these patients to a hospital dental department where this is possible. Generally speaking, patients at highest risk of developing I.E. should have the simplest dental treatment plans, with heavy emphasis on preventive dentistry, oral hygiene and maintenance of a healthy mouth.

For all at risk patients antibiotic prophylaxis is recommended in those situations most likely to be associated with significant bacteraemia since infective endocarditis

cannot occur without a preceding bacteraemia. This is more likely to occur in patients with poor oral hygiene, abundant plaque, or active periodontal disease. It is also more likely to occur with certain dental procedures e.g. extractions, periodontal surgery, and deep scaling. It is *most* likely to occur when the latter procedures are carried out in the presence of inflammation. The Australian policy² lists dental procedures which may place patients at risk — this list has been modified to include other invasive procedures which would obviously result in bleeding — e.g. vital pulpal extirpation. (Fig. 4) Prophylactic coverage is now recommended in all situations where gingival bleeding is anticipated,⁴ (American policy) and for any dental procedure which causes bleeding² (Australian policy). However, it is recognized that dental procedures may be over-rated as a possible precipitating cause of I.E.²⁸ and that gingival bleeding, which is currently used as the essential indicator for prophylaxis, may not be the only situation requiring coverage.

Treatment Planning Modification in Cardiac Patients

Patients with rheumatic heart disease with no evidence of congestive cardiac failure and patients with asymptomatic congenital heart disease can receive any indicated dental treatment *as long as appropriate antibiotics are used to prevent infective endocarditis*.³

The prophylactic coverage given is that recommended by the AHA⁴ (December '84) (Fig. 3) and the oral route is usually selected because of the lower incidence of serious allergic reactions, convenience, and better patient compliance. Penicillin is the current drug of choice, however, in cases of allergy it may be necessary to switch to an alternative antibiotic, e.g. erythromycin.

In general terms, patients at risk of developing infective endocarditis should have the highest level of oral health. Even in the absence of dental procedures, poor dental hygiene or dental disease such as periodontal or periapical infections may induce bacteraemia. Patients with ill fitting dentures that produce ulcers are also at risk.¹⁷

Common sense must prevail in drawing up a treatment plan for these patients. The

possible dental benefits must be weighed carefully against the very real medical hazards involved. Unless the patient has exceptionally good oral hygiene and the procedure has an excellent prognosis, it is wise to avoid complicated dental procedures. As indicated earlier, this is particularly true for patients at highest risk of I.E.

All patients should be advised of the other options open to them, e.g. extraction of the problem tooth with or without a subsequent prosthesis and of the possible problems following endodontics or surgery. In this way, the patient can participate in an informed decision.

Timing of Antibiotic Prophylaxis:

The regimen now recommended for oral administration involves a loading dose and

one post-operative dose. The current AHA policy underlines the fact that it is the initial high dose of antibiotic, shortly before the dental appointment, that is important. This large loading dose produces high serum levels of the antibiotic at the time of bacteraemia. This concept is critical to the basis for current prophylactic regimens.^{4,2,10} It replaces the older idea of "sterilizing" the mouth prior to treatment. The dentist should do as much as possible during each coverage period (e.g. quadrant dentistry), so that the required number of coverage periods can be reduced to a minimum. One hour is allowed to lapse between taking Penicillin V and starting dental treatment to allow for gastric absorption and the achievement of adequate serum levels. Dental work is performed only on the first day⁶ of the coverage period, preferably in the first 3-4 hours⁵ after the loading dose, because the bacteraemia then produced will be of penicillin-sensitive microorganisms. Dental work performed after this 3-4 hours, which could result in a bacteraemia, should be covered with an additional loading dose.⁵ Garrod and Waterworth⁷ gave a clear warning of the danger in administering penicillin for some days before surgery, as resistant strains can certainly appear in the mouth within 48 hours of its being started. The result of commencing penicillin administration too early is to eliminate the penicillin sensitive streptococci in the mouth, and allow the proliferation of more resistant strains.⁸ Any bacteraemia then produced, will contain a much higher percentage of resistant micro-organisms, and could result in an endocarditis which would be more difficult to treat. This is the rationale for advising that dental treatment should be performed on the first day only of the coverage period,¹⁹ preferably in the first 3-4 hours after the loading dose. As bacteraemias rarely persist for more than 15 minutes after the dental procedure which causes gingival bleeding, a single post-operative dose, six hours later, is now recommended for most routine situations. However, as the AHA recommendations warn,⁴ "It is not possible to make recommendations for all possible clinical situations. Practitioners must exercise their clinical judgement in determining the duration and choice of antibiotic when special circumstances apply." Where post-operative infection is anticipated, a longer post-operative course of antibiotics may be advisable.

The patient's physician sometimes advises the consulting dentist on the antibiotic regimen to be followed. When this advice is clearly incorrect (e.g. the use of an inappropriate antibiotic such as tetracycline, or inappropriate timing — such as

FIG. 1

Cardiac Conditions*

Endocarditis Prophylaxis Recommended:

- Prosthetic cardiac valves (including biosynthetic valves)
- Most congenital cardiac malformations
- Surgically constructed systemic-pulmonary shunts
- Rheumatic and other acquired valvular dysfunction
- Idiopathic hypertrophic subaortic stenosis (IHSS)
- Previous history of bacterial endocarditis
- Mitral valve prolapse with insufficiency**

Endocarditis Prophylaxis Not Recommended:

- Isolated secundum atrial septal defect
- Secundum atrial septal defect repaired without a patch six or more months earlier
- Patent ductus arteriosus ligated and divided six or more months earlier
- Post-operative coronary artery bypass graft (CABG) surgery

* This table lists common conditions but is not meant to be all-inclusive.

** Definitive data to provide guidance in management of patients with mitral valve prolapse are particularly limited. It is clear that in general such patients are at low risk of development of endocarditis, but the risk-benefit ratio of prophylaxis in mitral valve prolapse is uncertain.

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FIG. 2

Patients at Risk*

Susceptible Patients (Group A)

Patients with a history of:

- a. Congenital heart disease including ventricular septal defect, tetralogy of Fallot, aortic stenosis, complex cyanotic heart disease, patent ductus arteriosus or systemic to pulmonary arterial shunts. (Does not include uncomplicated secundum atrial septal defect.)
- b. Rheumatic or other acquired valvular heart disease.
- c. Idiopathic hypertrophic subaortic stenosis.
- d. Patients with a permanent transvenous pacemaker.
- e. Patients with a history of prosthetic or vascular repair surgery.
- f. Patients with a history of luetic (syphilitic) heart disease, calcific aortic stenosis, calcified mitral annulus.
- g. Patients addicted to drugs administered intravenously.
- h. Patients with mitral valve prolapse syndrome or mitral insufficiency.

Highly Susceptible Patients (Group B)

Patients with the following histories have a high risk of contracting infective endocarditis subsequent to dental treatment and the consequences of the disease are likely to be serious:

- a. Patients with a history of infective endocarditis.
- b. Patients with a prosthetic heart valve.

* Therapeutics Advisory Committee. Australian Dental Journal, February, 1980.

starting medication the day before the dental appointment) the dentist may choose to handle the situation by thanking the physician for his advice but informing him that he always uses the American Heart Association's Recommendations.⁴ It is extremely uncommon for a physician to deliberately give advice contrary to AHA official policy and should this happen, the dentist may choose to consult a cardiologist. The dentist should remember, however, that the final responsibility for his patient's welfare lies with him and that some physicians may not be as familiar with current AHA policy on antibiotic prophylaxis, as he is.

Where multiple dental appointments are necessary it is advisable that *at least* two weeks^{5,9}, be allowed to elapse between coverage periods. This is to prevent the development of penicillin resistant organisms by too frequent exposure to penicillin. It is *preferable* to extend this time interval where feasible, to allow the oral flora to return to normal.

Recommendations for Specific Dental Situations

Sadowsky and Kunzel²⁵ interviewed 322 dentists by phone to determine their knowledge of the AHA's recommendations on antibiotic prophylaxis, and their compliance with these recommendations. Dentists from urban and rural areas were sampled. They found that nearly a third of general dental practitioners would consider the use of antibiotic prophylaxis for all dental procedures, for patients at risk. This practice indicates a lack of understanding of the reasons why antibiotics are used on cardiac risk patients, and of the situations most likely to be associated with a bacteraemia. This same apparent clinical confusion was noted amongst the students at U of T and led to the following general guidelines. Obviously, however, each case still requires individual assessment. High risk cases are not usually treated by Toronto undergraduates so these recommendations are applicable, unless otherwise stated, to patients at lower risk of I.E. Although these guidelines were initially prepared for the guidance of students, it is felt that they reflect basic principles and can be usefully applied to general practice.

Crowns and Bridges¹¹

Crowns and bridges can be made for these patients with proper planning and preparation. During one coverage period the preparations can be made, impressions taken and temporaries made. It is especially important that well constructed temporaries be made so that the optimal gingival health, which should have been established in the early visits, can be maintained. Margins should be supra gingival where possible.

FIG. 3

Summary of Recommended Antibiotic Regimens for Dental/Respiratory Tract Procedures⁴

Standard Regimen

For dental procedures that cause gingival bleeding, and oral/respiratory tract surgery.

Penicillin V 2.0 g orally one hour before, then 1.0 g six hours later. For patients unable to take oral medications, 2 million units of aqueous penicillin G IV or IM 30-60 minutes before a procedure and 1 million units six hours later may be substituted.

Special Regimens

Parenteral regimen for use when maximal protection desired; e.g., for patients with prosthetic valves

Ampicillin 1.0-2.0 g IM or IV *plus* gentamicin 1.5 mg/kg IM or IV, one-half hour before procedure, followed by 1.0 g oral penicillin V six hours later. Alternatively, the parenteral regimen may be repeated once eight hours later.

Oral regimen for penicillin-allergic patients

Erythromycin 1.0 g orally one hour before, then 500 mg six hours later

Parenteral regimen for penicillin-allergic patients

Vancomycin 1.0 g IV *slowly* over one hour, starting one hour before. No repeat dose is necessary.

Note: Pediatric doses: Ampicillin 50 mg/kg per dose; erythromycin 20 mg/kg for first dose, then 10 mg/kg; gentamicin 2.0 mg/kg per dose; penicillin V full adult dose if greater than 60 lb (27 kg), one-half adult dose if less than 60 lb (27 kg); aqueous penicillin G 50,000 units/kg (25,000 units/kg for follow-up); vancomycin 20 mg/kg per dose. The intervals between doses are the same as for adults. Total doses should not exceed adult doses.

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FIG. 4

Procedures Requiring Antibiotic Prophylaxis*

A 1980 report from an *Australian Therapeutics Advisory Committee*² has listed dental procedures which may place susceptible patients at risk as follows:

- Any dental procedure which causes bleeding. The greatest risk will occur after the following procedures:
 - extraction of teeth;
 - oral surgery;
 - periodontal surgery including scaling and subgingival curettage;
 - subgingival scaling and root planing;
 - some subgingival cavity preparations where bleeding is likely to occur.

The risk will be greater for all these procedures in the presence of periodontal disease.
- Drainage of dental abscess by incision, tooth removal or through the pulp canal.
- Endodontic procedures which may cause a bacteraemia are:
 - treatment of infected pulps;
 - procedures which extend beyond the apex of the tooth.
- Manipulation of mobile teeth, as during impression taking or during re-positioning of teeth following trauma.
- Insertion of immediate dentures.
- Re-implantation of avulsed teeth.

Antibiotic coverage is required for any dental procedure which causes bleeding; this includes vital pulpal extirpation, periodontal probing; periapical curettage, etc.

*Therapeutics Advisory Committee. *Australian Dental Journal*, February, 1980.

FIG. 5

Procedures which DO NOT Require Antibiotic Coverage²²

- Alginate impressions of periodontally healthy, non-mobile teeth and edentulous patients;
- Endodontic treatment, on non-vital teeth, confined to the root canal;
- Adjustment of orthodontic appliances;
- Restorative procedures on the occlusal surfaces of teeth (where rubber damp clamp NOT used);
- Injection of L.A. when tissue surface is prepared carefully with an antiseptic solution.

Brooks, S.L. and Millard, H.D. "The Damaged Heart, Part 1". *Dental Clinics of North America*, Vol. 27, No. 2. April 1983.

Prostodontics¹¹

Antibiotic coverage is not considered necessary for any phase of full denture construction. Special care must be taken in the immediate post-insertion period to prevent the development of sore spots.

This may be achieved by:

- a) counselling patients to return for immediate adjustments, should any sore areas develop;
- b) seeing the patient every second day for evaluation until dentures are being worn comfortably;
- c) the use of a soft-diet for the first two weeks following insertion of the dentures;
- d) careful attention to all phases of denture construction to achieve optimal fit.

Prior to partial denture construction, the sanitative phase of periodontal treatment must be completed and the patient's oral hygiene should be satisfactory. Antibiotic coverage is then not required for any phase of partial denture construction, assuming the remaining teeth are periodontally healthy.

When teeth are to be extracted and immediate dentures inserted, it is often because of severe periodontitis. Antibiotic coverage is therefore required for impression procedures and, of course, for the surgical phase. Meticulous care must be given in the post-insertion period to prevent the development of sore spots, as discussed above.

Oral Surgery¹²

The following general guidelines may be useful and serve as a basis for discussion with the patient's physician:

- a) all patients with damaged heart valves require antibiotic prophylaxis prior to surgery;
- b) a new patient presenting for an extraction with a history of rheumatic fever and no known cardiac damage is commonly routinely covered. These are usually emergency procedures so that often there is not sufficient time to investigate the patient's cardiac status;
- c) following an oral surgical procedure, should an infection develop following cessation of prophylactic penicillin therapy, and where no additional surgery is contemplated, the infection is treated by re-instituting penicillin as it is felt that penicillin is more effective against oral infections than erythromycin. The alternative antibiotic in this situation is clindamycin;
- d) patients presenting with pericoronitis who are going to require subsequent extraction of the wisdom teeth have their pericoronal infection treated routinely, i.e. with penicillin, mouth washes, etc. and two — three weeks later, are given appropriate

further penicillin coverage for extraction of the teeth;

- e) in addition to the antibiotic coverage, in cases involving a surgical procedure, the site should be cleansed and an antiseptic such as iodine 1 per cent should be applied to the area.

Endodontics²⁹

As in all other phases of dentistry, it is prudent to minimize the number of appointments requiring antibiotic prophylaxis and to space them appropriately. To this end, it is suggested that whenever possible most teeth be finished in two appointments, spaced apart by at least two weeks. The first appointment could include pulpectomy and canal preparation, the second appointment could therefore be used to obturate the tooth.

The question then of whether or not to root-treat a given tooth is a very individual one requiring evaluation of both the patient's medical and dental conditions.

Patients at high risk of developing I.E. are special cases and are usually not considered suitable candidates for endodontics because of the potential, however remote, for residual infection or flare-ups. There is however, considerable debate over which is best, endodontic treatment or an extraction. In the latter instance a procedure with a high possibility of bacteraemia occurs but the patient is not usually left with a potential situation for chronic infection or acute flare-ups, as may occur, however rarely, in endodontics. Although periapical disease in a quiescent form cannot be assumed to be a predisposing cause of bacteraemia,¹³ it may nonetheless result in an apical abscess, a situation which most likely could. Harty¹⁴ indicates that *high risk patients* (which he defines as patients with a previous history of I.E., or those who have had cardiac surgery with the implantation of a prosthesis) should be considered a contra-indication to endodontic therapy. Seltzer,¹⁵ however, says that in patients with rheumatic heart disease, (lower risk patients) endodontic therapy is the therapy of choice because of the lower probability of bacteraemias. McGowan¹⁶ advises that it is safer to reduce the numbers of episodes of exposure to bacteraemia by one visit root filling combined with immediate apical curettage or apicetomy if required, so that the most effective AB prophylaxis can be applied once and for all. The AHA says that "patients at risk for bacterial endocarditis should maintain the best possible oral health to reduce potential sources of bacterial seeding because poor dental hygiene or periodontal or *periapical* infections may induce bacteraemia even in the absence of dental procedures". Because of these variables

and lack of firm data, each case requires individual consideration. However in patients at high risk of developing I.E. the authors would, as a general rule, recommend extraction of all questionable teeth under appropriate antibiotic coverage. For patients at lesser risk, the likelihood of endodontic success must be carefully assessed and endodontic therapy may be carried out on teeth where the prognosis is deemed good.

Periodontics³⁰

A healthy periodontium is probably a major factor in reducing the incidence of bacteraemias, iatrogenic or otherwise, in the cardiac risk patient. Therefore this aspect of the treatment plan has particular importance for these patients. Once a healthy periodontal condition has been achieved, maintenance, through careful oral hygiene procedures and regular recall visits must be stressed. In high risk cases, it is not advisable to leave in situ, teeth whose long term prognosis is doubtful, and which may be potential sources of bacteraemias. Clinical judgement is clearly all-important. In higher risk patients there is less leeway for maintaining teeth with a diseased periodontium. Ideally, all teeth in these patients would be non-mobile and free from inflammation. Bifurcation accessibility is a particular concern in high risk patients and could be sufficient grounds for considering extraction.

Adjunctive Measures to Antibiotic Prophylaxis

Additional precautions can be taken to minimize the extent of bacteraemia from a dental procedure. These measures are not meant to be used instead of prophylactic antibiotic coverage, but rather as adjunctive measures and may include:

1. Sulcal irrigation and mouth wash with 1 per cent Povidine-Iodine Solution^{18,19}
2. Instillation of chlorhexidine 0.2 per cent² or 1 per cent¹⁸

It appears the most effective method of using topical antiseptics to reduce bacteraemia is by irrigation of the gingival sulcus.¹⁹ In the clinical study performed by Scopp¹⁹ the gingival sulcus of each tooth to be extracted and the surrounding gingival mucosa of the quadrant were irrigated for approximately 1 minute with 10-20 ml of the assigned solution with use of a standard luer-lok syringe and blunt angulated needle. Prior to this, the patient rinsed the mouth for 30 seconds with 10-20 ml of the assigned mouth wash, waited two minutes and repeated the rinse.

In Conclusion:

1. Take an adequate medical history. Ask about

- 1) rheumatic fever
- 2) heart murmurs
- 3) other serious illness
- 4) hospitalization
2. Clarify any vague replies through consultation with patient's physician.
3. Update this history regularly.
4. Use AHA guidelines for antibiotic prophylaxis.⁴ (Fig. 3)
5. Allow at least two weeks to elapse between appointments requiring antibiotic coverage. Extend this time when possible.
6. If the patient has taken penicillin in the two-week period prior to his dental appointment, use I.M. coverage where possible. Alternatively, oral erythromycin can be used.
7. Stress the importance of attaining and maintaining good oral health.
8. Have the patient report to you or his physician any unexplained change in his health following dental procedures. Most cases of I.E. develop two weeks after the dental procedure, but some have been thought to take up to three months to develop.
9. Use appropriate adjunctive procedures to reduce degree of bacteraemia, when indicated.

Specific Examples

1. Patient has history of rheumatic fever, enjoys excellent health. Has no murmur (confirmed by physician). *No antibiotic required*^{20,21,22,23}
 2. Any patient with a history of rheumatic fever who has a heart murmur, EVEN IF in excellent health. *Requires antibiotic prophylaxis.*
 3. Any patient with a heart murmur which represents DAMAGE to the endocardium (no matter the causative disease). *Requires antibiotic prophylaxis.*
 4. Dosage and method of antibiotic prophylaxis. *Use AHA Guidelines. (1984, Fig. 3)*
 5. Patient requiring antibiotic prophylaxis is allergic to penicillin and erythromycin. *In certain cases, oral clindamycin* can be used²⁴ but this should be discussed with the patient's cardiologist. The AHA⁴ also mentions oral cephalosporins (1.0 gm 1 hour before the procedure plus 500 mg 6 hours later) but says that specific data are lacking to allow specific recommendations of this regimen. Tetracyclines cannot be recommended for this purpose.*
- *Dosage of clindamycin: A loading dose of 450 mg (3 tabs) one hour before the procedure and 300 mg 6 hours later.
6. Period between dental appointments in a patient requiring antibiotic prophylaxis.

Two week minimum, preferably longer.

N.B. If there are aspects of the treatment plan that can be carried out without antibiotic prophylaxis, these can be done within the two week period, e.g. intracoronary restorations that can be done without rubber dam.

7. In any patient with a heart murmur, you must ascertain if this is "functional/benign" or whether it represents a structural abnormality secondary to disease.

All heart murmurs must be checked out by consultation with the patient's physician (by telephone or letter), unless the patient has a clear understanding of the significance of heart murmurs to dentistry and has been assured by his physician that his is of NO consequence. Many patients believe they have a "mild" heart murmur, which on consultation with their physician, turns out to be a mitral valve prolapse, a condition which does require coverage.

However:

8. If a patient with a heart murmur is ambiguous about its nature or if doubt still exists.

Contact physician re antibiotic prophylaxis.

9. A patient with a history of rheumatic fever is on continuous low-dose penicillin therapy as prophylaxis against streptococcal tonsillitis and requires antibiotic prophylaxis.

Oral erythromycin or one of the parental regimens.⁴

10. In general, a patient requiring antibiotic prophylaxis for a heart condition should receive specific dental treatment only if the long term prognosis for that procedure is excellent.

Examples:

- (a) Poor hygiene and a badly neglected dentition with advanced periodontal disease. This patient may be better off with extractions of those teeth whose future prognosis remains in doubt.
- (b) Necrotic, grossly infected teeth especially molars whose endodontic future is in doubt should be extracted.

Conclusion

The information in this article is intended to provide the reader with *GUIDELINES* only concerning the management of patients with cardiovascular disease. *ALL* cases must be assessed individually, if necessary in conjunction with the patient's physician, to establish an optimum treatment plan for that patient. In addition, it is essential to warn patients at risk from I.E. (even if prophylactic AB coverage has been given) to report back if even a minor febrile illness develops after dental treatment.

It is unfortunate, but nonetheless obvious that this entire issue has been influenced by medicolegal considerations. It is also necessary to say that there are authorities²⁷ who feel that the benefits of prophylaxis — particularly for low risk patients may be outweighed by the possible disadvantages — e.g. allergy, adverse reactions. In the final analysis however, it is prudent to follow the recommendations of this continent's most authoritative body on this subject, the American Heart Association. In conclusion, perhaps the most important yet least emphasized factor in helping to prevent I.E. of dental origin, is to stress to the patient the importance of good oral health and oral hygiene procedures. As Oakley²⁶ and Somerville have said, "It is a sobering thought that a rise in the standard of oral hygiene throughout the country would probably help more than any other measure to reduce the incidence of streptococcal infective endocarditis."

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RÉSUMÉ

Depuis quelques années, le sujet du vieillissement retient de plus en plus l'attention des sociétés. De là sont nées de nouvelles sciences, telles la gérontologie et la gériatrie. La profession dentaire a été lente à réagir à ce phénomène. Mais depuis quelque temps, des dentistes sensibilisés au problème ont réagi soit individuellement, soit collectivement. La gériatrie dentaire ou gérodontologie est devenue une préoccupation de la profession dentaire. De nouvelles associations scientifiques vouées à la promotion de la santé dentaire chez les personnes âgées sont créées. Dans le présent article, les auteurs résument les initiatives mises de l'avant tant en France qu'au Québec.

SUMMARY

During the last few years, the subject of aging has preoccupied society more and more. New sciences such as gerontology and geriatrics have been created. The dental profession has reacted quite slowly to this trend. Recently dentists who are aware of this problem have reacted either individually or collectively. Dental geriatrics or gerontology is now a preoccupation in dentistry. Newly created scientific associations dedicated to promoting the health of the elderly have been created. This article outlines the activities that have taken place in this field in France and Quebec.

INTRODUCTION

Le vieillissement de la population semble marquer de plus en plus les pays industrialisés. La France et le Canada français n'échappent pas à cette réalité. Ce phénomène n'est pas sans poser de nouveaux défis aux professionnels de la santé.

Après avoir défini certains termes, nous verrons dans le présent article comment certaines données démographiques ont mis en évidence ce problème, et incité certains collègues et organismes à approfondir le sujet.

De cette réflexion individuelle et collective sont nées quelques réalisations concrètes qu'il nous fait plaisir d'énoncer. Toutefois, nos actions dans ce domaine en tant que professionnels de la santé ne doivent pas demeurer isolées. Les contributions professionnelles ou disciplinaires de tous ceux qui se préoccupent de ce dossier doivent être mises en commun par la formation d'équipes multidisciplinaires.

Enfin, et ce en guise de conclusion, nous émettrons le vœu que soient créés de nouveaux cours dans les programmes d'enseignement en médecine dentaire portant sur la gérodontologie.

I. Terminologie

« Nous assistons dans le domaine du vieillissement à un bourdonnement d'activités, d'énergie et d'engagement qui est assez unique dans la trajectoire de nos sociétés. La vieillesse est devenue pour nous tous et pour nos sociétés une question. On se

penche sur celle-ci, sur les vieux, sur les retraités, en tentant de mieux comprendre les différentes facettes d'un vécu porteur à la fois du meilleur et du pire¹.

Cette évolution a donné naissance à des sciences relativement jeunes, soit celles de la gérontologie, de la gériatrie et de la gérodontologie. Pour être plus explicite, disons que la gérontologie (gérontologie sociale) est cette science qui étudie les phénomènes associés au vieillissement au point de vue social, économique, démographique et psychologique. La gériatrie (gérontologie clinique), par ailleurs, vise à la prévention et au traitement des maladies et des incapacités fonctionnelles affectant les personnes âgées². Et la gérodontologie (gérontologie et odontologie), d'autre part, consiste en la prévention et au traitement des maladies bucco-dentaires des personnes âgées. Ce dernier vocabulaire permet de combler une lacune terminologique.

II. Bases démographiques

Le pourcentage de personnes âgées croît d'année en année. Cette réalité est particulièrement due au faible taux de natalité joint aux progrès médicaux et aux améliorations de vie et d'hygiène qui augmentent l'espérance de vie. Ce vieillissement est par ailleurs catégoriel. Selon le sexe, l'origine ethnique, le milieu de vie, les chances de vieillir sont inégales.

En effet, la population de la France métropolitaine au 1^{er} janvier 1984 était estimée par l'Institut national de la statistique et des études économiques (INSEE) à 54,748,000

personnes dont 26,725,000 pour le sexe masculin, et 28,023,000 pour le sexe féminin (au 1^{er} janvier 1983: 54,556,000 habitants)³. L'augmentation en un an aurait été de 192,000 personnes. Elle est due au mouvement naturel (excédent des naissances sur les décès), le solde migratoire avec l'étranger étant supposé nul. On comptait dans le nombre total 29,4 pour cent de moins de 20 ans, 57,6 pour cent de 20 à 64 ans, 13 pour cent de 65 ans et plus.

D'autre part, la population du Québec en 1981 était estimée par le Bureau de la statistique du Québec à 6,438,420 personnes. 569,395 étaient des personnes de 65 ans et plus, soit 8,8 de la population totale. De ce nombre, 333,505 étaient des femmes et 235,890 des hommes⁴.

Dans les deux cas, toutes les prévisions démographiques prévoient une augmentation progressive du pourcentage des personnes âgées, principalement due à la chute de la natalité qui est présentement à 1,8 enfant par femme en France et à 1,5 au Québec.

Ces faits sont maintenant reconnus. Il ne faut donc pas s'étonner qu'une nette prise de conscience de l'acuité de ces problèmes se fasse jour un peu partout aujourd'hui dans le monde. Toutes les études prospectives effectuées en ce domaine démontrent que le mouvement en ce sens va s'accroître au point de modifier l'aspect de la future société.

III. Réalisations pratiques

Il était temps que la profession dentaire française, québécoise et la communauté dentaire internationale se soucient de cet aspect des problèmes du 3^{ème} âge, les États-Unis ayant pris à ce chapitre une longueur d'avance et des pays "jeunes dans leur création" comme Israël ayant déjà une expérience en ce domaine.

En France

En France, sous l'impulsion du professeur Charles Berenholc, s'est créée, il y a deux ans déjà, la Société scientifique française de gérontologie qui veut accueillir en son sein tous ceux qui sont sensibilisés à ce problème et regrouper ainsi les idées, les études et les efforts réalisés en ce domaine.

Le but de cette jeune société est de "promouvoir toutes les actions qui concernent la recherche, la clinique et la prévention, liées à la connaissance des problèmes bucco-dentaires chez les personnes âgées"⁵. Par le biais de cette société, le professeur Berenholc et ses collègues s'entendent déjà "à former des praticiens ainsi que du personnel auxiliaire et motiver, par l'intermédiaire des médias, les personnes qui sont ou seront bientôt concernées par des problèmes bucco-dentaires des personnes âgées". Ils s'attacheront également "à mieux connaî-

tre par la recherche tous les processus de vieillissement bucco-dentaires de manière à essayer d'y remédier dans les meilleures conditions possibles. Ils s'emploieront enfin à essayer de parfaire l'enseignement dans cette optique et à susciter la création éventuelle de centres de soins bucco-dentaires pour les personnes âgées"⁶.

Suite à cette initiative, des équipes multidisciplinaires se sont déjà constituées en province, principalement à Bordeaux.

Au Québec

La conscientisation à ce problème a été initiée par les docteurs Simard, Brodeur et Kandelman dans leur étude sur la santé bucco-dentaire des personnes de 65 ans et plus.

Les principaux objectifs de cette étude consistaient à déterminer le degré d'utilisation des services, la condition des tissus bucco-dentaires et l'état prothétique ainsi que les besoins de traitement ressentis et diagnostiqués. Cette étude en a fait réfléchir plus d'un puisque les données recueillies prouvent hors de tout doute que la majorité des Québécois âgés ont besoin de soins bucco-dentaires.

Selon les auteurs, "une réflexion en profondeur sur la situation de la santé bucco-dentaire de la population du troisième âge et l'instauration d'un plan d'action en vue d'apporter des correctifs à un état de fait qu'une société ne peut accepter en tout confort" s'imposent dans les meilleurs délais⁷.

Cette étude ne devait donc pas demeurer sans suite. C'est dans cette optique que l'Ordre des dentistes du Québec a créé un comité "ad hoc" sur la dentisterie gériatrique dont le mandat était d'évaluer l'impact présent et futur du vieillissement de la population québécoise sur l'exercice de la médecine dentaire à court et moyen terme, et d'évaluer les besoins en formation complémentaire pour permettre aux dentistes de faire face à ces besoins nouveaux.

Le rapport de ce comité fut présenté aux administrateurs de l'Ordre. Il touche l'aspect socio-démographique du vieillissement au Québec et au Canada, résume l'état de santé bucco-dentaire des âgés québécois, donne le pouls de la profession dentaire et des facultés de médecine dentaire du Québec sur le sujet. L'analyse de la situation a conduit les auteurs à recommander toute une série de mesures qui, si elles étaient mises en application, pourraient être les prémices d'une véritable politique de santé dentaire chez nos aînés⁸.

L'Ordre des dentistes du Québec n'est pas demeuré insensible à ces deux études puisqu'il a décidé de faire porter principalement son message en 1984-85 sur l'état de santé dentaire des personnes âgées et sur les correctifs à apporter pour améliorer cette situation.

La communauté internationale

Dernièrement, sous l'autorité du professeur Charles Berenholc, se sont réunis à Paris des enseignants venus de divers pays (Grande-Bretagne, France, États-Unis, Israël, Danemark, Pays-Bas, Canada, Singapour, Suède).

Ces derniers s'étaient déjà sentis concernés par ces problèmes et les avaient plus ou moins étudiés. Chacun est venu présenter son expérience et ses propositions pour porter remède aux difficultés rencontrées. De là est née l'Association internationale de gérontologie, qui a son siège à Paris.*

Cette association a pour but de regrouper sur le plan mondial ceux qui sont intéressés aux problèmes de gérontologie ou les sociétés scientifiques qui s'intéressent à cette discipline dans les divers pays. Ses principaux moyens d'action consistent en:

- des rencontres, congrès, réunions sous forme de journées mondiales d'étude en gérontologie;
- des publications, bulletins et revues agréées permettant de présenter les travaux des membres;
- la création d'un fichier bibliographique;
- tous moyens propres à faire mieux connaître ou progresser l'enseignement, la recherche, la clinique, les incidences socio-économiques de la gérontologie.

IV. Approche multidisciplinaire

Mais pourquoi identifier une nouvelle branche de la dentisterie qui se rapporte à une catégorie bien spécifique de la population?

- En premier lieu, parce que cet aspect de la thérapeutique a jusqu'à présent à peu près complètement échappé aux professionnels de la santé dentaire;
- En second lieu, parce qu'il s'agit de pouvoir répondre à un phénomène d'évolution sociale inéluctable qui est en train de se former sous nos yeux.

Cette nouvelle approche de la dentisterie, tout en étant proprement bucco-dentaire, donc sous la responsabilité des thérapeutes dentaires, se doit également d'être multidisciplinaire. Il semble en effet que ces problèmes ne trouveront de solution satisfaisante que si les spécialistes médicaux et dentaires travaillent en étroite collaboration, c'est-à-dire si la notion d'équipe pluridisciplinaire se crée entre les médecins, les gériatres et les dentistes; le produit de cette union débouchant tout naturellement sur la "gérontologie".

La gérontologie et, particulièrement la gériatrie et la gérontologie, sont des disciplines qui n'ont acquis leurs lettres de noblesse que dans un passé relativement récent. Il n'est pas étonnant qu'elles se soient quelque temps ignorées, mais on s'aperçoit à l'examen que leurs routes vont

souvent de conserve et que chacune a besoin parfois du concours de l'autre. En restant isolées, campant sur leur terrain propre, ces disciplines peuvent se révéler antagonistes dans leurs actions respectives et les efforts de l'une annihilés par les efforts de l'autre.

Prenons un exemple dans chaque domaine: dans un souci louable de protection et de suppléance, des médications de nature très variable vont être ordonnées par le médecin. Certaines d'entre elles, par leurs effets secondaires, vont entraîner de la xérostomie mineure dans un contexte habituel, et peut-être du même coup empêcher l'accoutumance du patient à une prothèse nouvelle. Le médecin est devenu là, sans le vouloir l'ennemi no 1 du dentiste.

Inversement, faute de prothèse, ou porteuse d'une prothèse insuffisamment fonctionnelle, la personne âgée se nourrit mal, selon une diététique adaptée à ses possibilités masticatoires et non à ses besoins nutritionnels. Le médecin va s'épuiser à reconstituer plus ou moins artificiellement un apport quantitatif et qualitatif alimentaire alors que la solution naturelle de ses problèmes passe par l'intervention du dentiste.

Chacune de ces deux spécialités en vivant enfermée dans son domaine peut à tout moment se trouver en butte à l'action de l'autre. La gérodonologie veut décloisonner ce système. Son but est essentiellement de promouvoir et de coordonner les connaissances et la formation des médecins dentistes liées aux problèmes de santé bucco-dentaire chez les personnes âgées. La recherche de thérapeutiques spécifiques et adaptées au 3^{ème} âge et la prévention figurent donc dans la liste non exhaustive des moyens prévus pour atteindre ce but.

Dans un tout premier stade, une meilleure connaissance entre les hommes qui président à ces traitements doit être profitable à chacun par l'ouverture qu'elle apporte sur un monde nouveau: le monde et les problèmes de l'autre. Une collaboration, ensuite, doit permettre de résoudre à deux ou à plusieurs des cas dont un seul ne saurait détenir la solution, car la complexité des paramètres qui interfèrent nécessite une combinaison orchestrée des traitements.

Ce deuxième stade permet déjà d'envisager la création d'une équipe pluridisciplinaire au service de la personne âgée. Cette équipe, sur le plan de son intégration hospitalière, permet de déboucher sur une synthèse clinique grâce au regroupement au sein d'une entité nouvelle de plusieurs services provenant d'horizons divers, mais dont les réalisations thérapeutiques doivent s'envisager dans la globalité clinique.

Voilà comment, dans la politique future de santé, la gérodonologie doit occuper une place spécifique. Les sociétés de gérodonologie se veulent donc représentatives

auprès des pouvoirs publics et des autres sociétés scientifiques de la réunion des spécialités gériatriques et odontologiques. Elles souhaitent devenir les interlocuteurs privilégiés des différents pionniers qui conduisent dans le monde des travaux sur ce sujet.

Conclusion: Une Nouvelle Discipline?

Les unités d'enseignement et de recherche en médecine dentaire ont déjà ressenti la nécessité de créer des cours spécifiques en pédiodontie pour satisfaire les besoins nouveaux de prophylaxie, d'éducation sanitaire et de soins aux enfants que les études prospectives indiquaient comme devant être les objectifs majeurs de l'époque que nous vivons.

Il n'est pas outrecaudant de penser que l'accroissement de la longévité humaine et son cortège de problèmes très particuliers va voir fleurir toute une nouvelle approche thérapeutique propre aux personnes âgées. Et de même que des cours propres aux soins dentaires chez les enfants ont été créés sous la pulsion de la nécessité, il n'est pas impossible de penser que des cours en gérodonologie se créent un jour pour traiter des problèmes de l'autre extrémité de la chaîne: la vieillesse.

Pour devenir membre de l'Association internationale de gérodonologie, s.v.p. écrire au siège social de l'association:

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FRANCE

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Pour demande de tirés à part: Dr. Roland Vallée, École de médecine dentaire, Université Laval, Ste-Foy, Québec, Canada, G1K 7P4.

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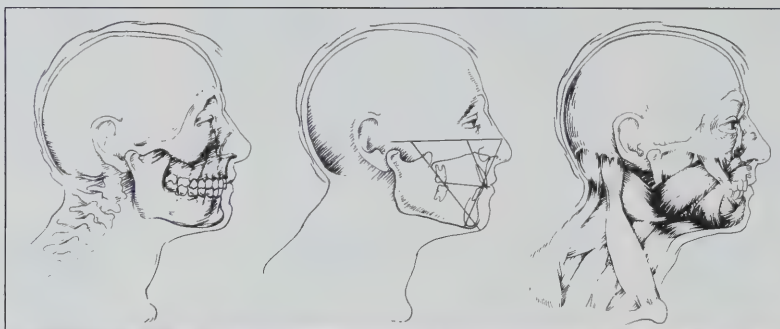
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1:30-5:30 p.m. Session Continues, *Biomedical Documentation*

SATURDAY-MARCH 1, 1986

8:30-11:30 a.m. Dr. Yoshitaka Ogata, D.D.S., M.S.D., *Vertical Dimension and the Anterior-Posterior Relationship*

11:30 a.m.-1:00 p.m. Lunch Break

1:00-4:30 p.m. Dr. Duncan Brown, B.Sc., D.D.S., D. Ortho., Dr. Gordon Powell, B.Sc., D.D.S., D. Ortho., *Neuromuscular Principles in Adult Orthodontia*

4:30-6:00 p.m. Table Clinics

SUNDAY-MARCH 2, 1986

9:00 a.m.-Noon Dr. Yoshitaka Ogata, D.D.S., M.S.D., *The Importance of the Tongue and Airway in Treatment Planning*

Noon-1:30 p.m. Lunch Break

1:30-3:30 p.m. Dr. Duncan Brown, B.Sc., D.D.S., D. Ortho., Dr. Gordon Powell, B.Sc., D.D.S., D. Ortho., *TMJ and the Orthodontic Patient*

3:30-4:30 p.m. Dr. Bernard Jankelson, D.M.D., *Summarizing the New Responsibilities and Opportunities that Neuromuscular Treatment Brings to Orthodontia*

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Announcements

JANUARY/JANVIER

January 11-25: 14th International Alpine Dental Conference, Hotel Annapurna, Courchevel 1850, France. Contact: International Dental Seminars, 24 Cadogan Square, London, SW1X 0JP England.

January 27-February 1, 1986: A meeting on the state of the art in orthodontic diagnoses and treatment planning, entitled "Kieferorthopädische Fortbildungstagung in Kitzbuhel" is being held in Kitzbuhel, Austria. Contact: The meeting secretariat, A-6370 Kitzbuhel, Webergasse 17, Austria.

January 30-February 2, 1986: Health-Com '86, Las Vegas, Nevada, Las Vegas Convention Centre. Highlights computer, telecommunications and information systems specifically for the healthcare industry. Contact: Lin Fish/Pete Soraparu, Fleishman Communications Inc. 312-397-7744.

FEBRUARY/FÉVRIER 1986

February 14, 1986: Academy of Dental Materials - Continuing education course on "Titanium", the new alloying element in dentistry. Northwestern University Dental School, 311 East Chicago Avenue, Chicago IL 60611. Contact: Sybil Greener. Telephone (312) 943-8410. Immediately precedes Chicago Midwinter Meeting.

February 15-16: Midwest Society of Periodontology Annual Midwinter Meeting, Chicago Hyatt Regency, 151 E. Wacker Dr., Chicago Ill. Contact: Midwest Society of Periodontology, Suite 212, 1775 Glenview Road, Glenview, Illinois 60025, or call Dr. Kenneth Buelmann evenings 312-729-8584.

February 16-19, 1986: 121st Chicago Midwinter Meeting, Chicago Hilton and Towers, Chicago Illinois. Theme is "New Horizons." Contact: Chicago Dental Society, 30 North Michigan Avenue, Chicago, Illinois, 60602, 312-726-4076.

February 28-March 2, 1986: Myotronics Research is presenting a three day seminar on "Neuromuscular

Status: The Missing Orthodontic Dimension" in San Diego, California: Principal speaker will be Dr. Yoshitaka Ogata. Contact: Merry Ashley, Myotronics Research, 1-800-426-0316 for information.

MARCH/MARS 1986

March 2-5, 1986, College of Dental Surgeons of British Columbia, Convention - "Dentistry in Motion" - at Hotel Vancouver. For Information, write to: Dr. Ken Neuman, College of Dental Surgeons of B.C. 1125 West Eighth Avenue, Vancouver, B.C. V6H 3N4.

March 5-8, 1986: Western Canada Dental Society Curling Bonspiel, Vancouver, B.C. Contact: Dr Elgin Duke, 10340-134 A St. Surrey, B.C., V3T 4B8, 604-585-3177.

March 16-20 1986: The International Orthodontic Conference, Sheraton Rotorua Hotel, Rotorua, New Zealand. Contact: Ron Roberts, Air New Zealand, 151 Bloor St. West, Suite 340, Toronto, Ont. M5S 1S4.

APRIL/AVRIL 1986

April 3-6, 1986: World Congress VIII for Oral Implantology, Macutoshheraton Hotel, Caracas, Venezuela, South America. Contact: Margaret Jackson, Executive Director ICOI, P.O. Box 2277, Grand Central Station, New York, New York, 10163, 201-783-6300.

April 5-12: 15th International Alpine Dental Conference, Hotel Annapurna, Courchevel, 1850, France. Contact: International Dental Seminars, 24 Cadogan Square, London SW1X 0JP, England.

April 6-9, 1986: International Rehabilitation Week, includes a conference and exhibition at the New York Convention Centre, New York City. Contact: EJJ Management Inc., 225 West 34th St. Suite 905, New York, NY. 10122, 212-563-5461.

April 7-12 1986: 23rd International Dental Show and German Dentists' conference in Cologne, Germany. Contact:

Messe-und Ausstellungs-Ges. m.b.h. Koln, Messeplatz, Postfach 210760, D-5000 Koln 21 (Deutz) West Germany.

MAY/MAI 1986

May to October 1986: Vancouver and District Dental Society in conjunction with the Inter-Specialty Dental Society of British Columbia will be presenting multidisciplinary seminars, endorsed by the College of Dental Surgeons of British Columbia, from May through October 1986 to coincide with Expo '86. Limited Attendance. Inquire early by contacting Susan Ryan, c/o Vancouver and District Dental Society, 1125 West 8th Avenue, Vancouver, B.C. V6H 3N4. 604-734-0717.

May 1-4, 1986: Alabama Implant Congress XII, Birmingham, Alabama. Contact: The Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama, 35206, 205-836-2211.

May 2-4, 1986: The 2nd International Symposium on Periodontics and Restorative Dentistry. Westin Hotel, Boston Mass. Sponsored by Quintessence Publishing Co. Inc. Contact: Quintessence Publishing Co. Inc. 8 South Michigan Ave. Chicago Ill. 60603. 312-782-3221.

May 11-14, 1986: Ontario Dental Association 119th Annual Spring Session. The Sheraton Centre Hotel, Toronto. Contact: Diana Thorneycroft, 234 St. George St., Toronto, Ontario, M5R 2P1.

May 21-23, 1986: International Life Sciences Institute, Symposium on Sweetness. International Conference Centre of Geneva, Switzerland. Contact: Symposium Secretariat, Conference Associates ILSI, 27A Medway Street, Westminster, London SW1P 2BD, England.

May 21-23, 1986: Expodent 1986 Trade Fair and Congress for Present Day Dentistry and Dental Technology. Utrecht, Holland. Contact: Royal Netherlands Industries Fair, Postbus 8500, 3503 RM, Utrecht Holland.

May 23-26, 1986: The 34th Annual Fitzgerald Dental Radiology Workshop will

be held at the Delta Mountain Inn, Whistler, B.C. Contact: Dr. O.F. Wright, #330-5655 Cambie St. Vancouver, B.C. V5Z 3A4, 604-261-8021.

May 25-29, 1986: Journées Dentaires du Québec. Palais des Congrès de Montréal, Québec. Pour informations, communiquer avec le docteur Michel Jahjah, président du Conseil de gestion des Journées dentaires, 625 boul. Dorchester ouest, 5^e étage, Montréal, Québec H3B 1R2, Tél: 514-875-8511.

JUNE/JUIN 1986

June 26-29, 1986: 10th International Symposium on Dental Hygiene. Oslo, Norway. Scandinavia Hotel. Contact: The Scientific Committee, 10th International Symposium on Dental Hygiene, P.O. Box 438, 1301 Sandvika, Norway. For more information contact either Inger-Lise Bryhni or Elisabeth Olsen Kolbjørnsen at the above address.

June 27-28: Joint meeting, Association of Prosthodontists of Canada and Cana-

dian Academy of Prosthodontics in conjunction with Expo '86, Vancouver, B.C. Canada. Contact: Dr. C. Osadetz, 1046 Dentistry/Pharmacy Building, University of Alberta, Edmonton, Alta. T6G 2N8. 403-432-3631.

June 30-July 4: The 8th Congress of the International Association of Dentistry for the Handicapped, Bergen Norway. Contact: Dr. Marit Moland, Helsm Vei 19, 5032 Minde, Norway.

JULY/JUILLET 1986

July 1, 1986: Applications are being accepted for the Postdoctoral program, Dental Diagnostic Science at the University of Texas, Health Science Center at San Antonio for the class beginning **July 1, 1986.** Address inquiries to: Office of the Associate Dean for Advanced Education, The Dental School, The University of Texas Health Science Centre at San Antonio, 7703 Floyd Curl Dr., San Antonio TX. 78284.

July 4-6: Dentistry '86, the British Dental Association Annual and Scientific Meet-

ing. Manchester, England. Contact: Helen MacKay, Meeting Planner, 64 Wimpole St. London, W1M 8AL.

July 6-11, 1986: The World Dental Conference, Jerusalem, Israel. Deadline for submission of Abstracts: **March 15, 1986.** Contact: Rifka Boruchowicz or Dalia Raif, convention co-ordinators, Diamond International Tours Inc, 1183 Finch Avenue, Suite 203, Downsview, Ontario. M3J 2G2, 416-663-9100.

AUGUST/AOÛT 1986

August 24-27, 1986: Canadian Dental Association Annual Convention. Halifax Nova Scotia. Contact: CDA, 1815 Alta Vista Dr. Ottawa, Ont. K1G 3Y6.

August 25-29, 1986: Biennial Conference of the New Zealand Dental Association, Wellington New Zealand. Contact: Conference Secretary, New Zealand Dental Association, P.O. Box 3709, Wellington, New Zealand.



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ADVERTISERS INDEX

C.D.S.P.I.	31, 58, 65, 87
Canadian German Chamber of Industry & Commerce Inc. ...	40
Colgate-Palmolive Canada	32
Conference Travel of Canada Inc.	89
Den-Mat Corporation	OBC
L.D. Caulk	IBC
McNeil Consumer Products Company	56, 57, 63
Myo-Tronics Inc.	86
Procter & Gamble Inc.	IFC
Regional Municipality of Niagara	85
Rhône-Poulenc Pharma Inc.	67
Siemens Electric Ltd.	16, 17
The Vancouver and District Dental Society	82
University of British Columbia	60
Warner Lambert Canada Inc. ..	18

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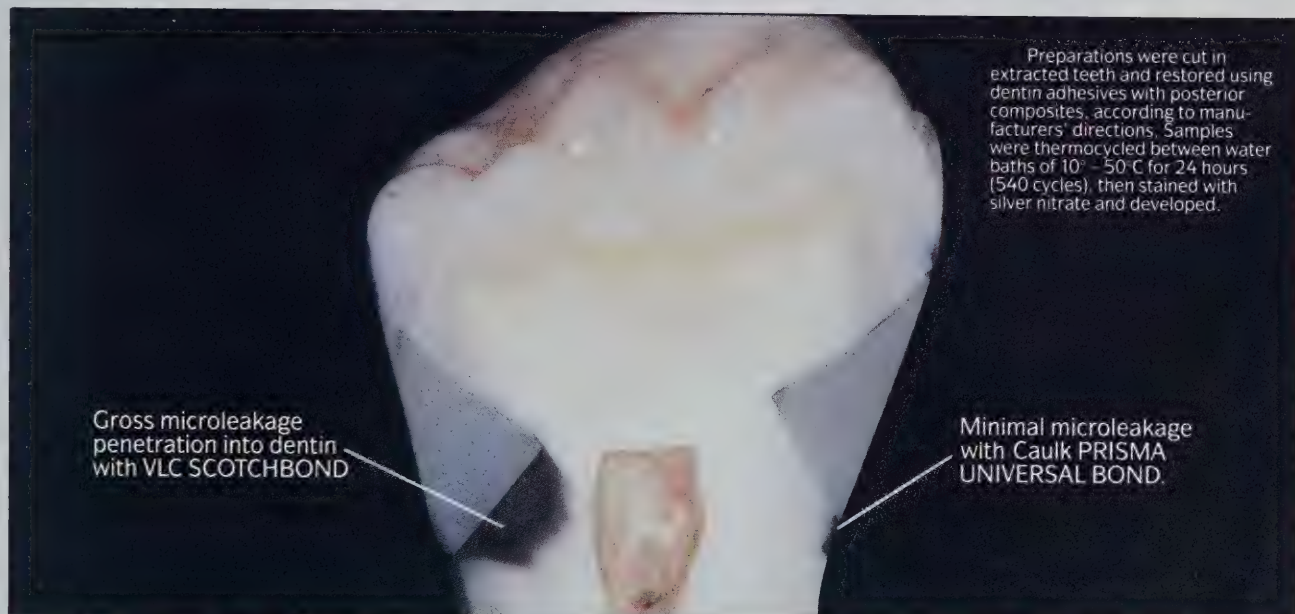
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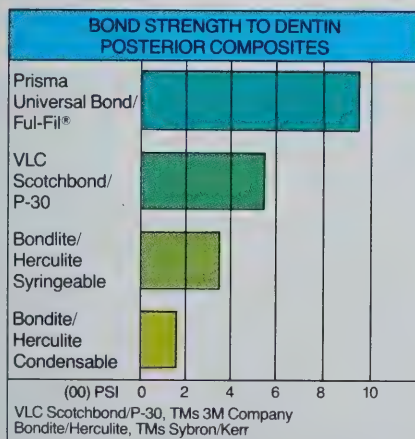
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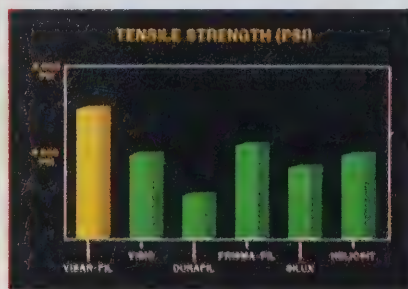


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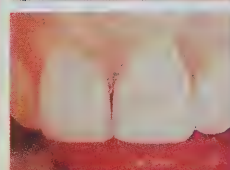
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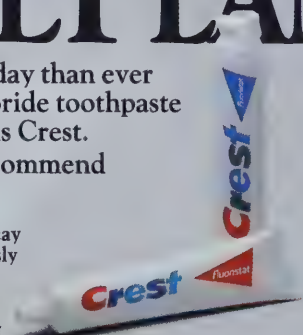
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OPINION 101

Dr. J.P. Lussier discusses the concept of a "postdoctoral prelicensure period."

NEWS UPDATE 102

Dr. Peter Innes becomes Dean of Dentistry, University of Saskatchewan.

How computerized searching can help you.

Halifax offers combined family vacation and Convention facilities.

B.C. College develops dental sign guidelines.

President's Column.

A New Column — "Ad Lib."

BRIEFLY 110

Dental news items from across Canada and around the world.

LETTERS 115

A dental professor says an article by Dean Ten Cate presents a solution where there is no 'related problem.'

CDA RESOURCE CENTRE 117

A list of articles available from the CDA Resource Centre/Library on the subject of Oral Complications in Cancer Patients.

BOOK REVIEWS 118

Ethics, Jurisprudence and History, for the Dental Hygienist Etched Cast Restorations:

Clinical and Laboratory Techniques

The Stomatognathic System.

Function, Dysfunction and Rehabilitation Restoration of the Partially Dentate Mouth

Understanding Dental Caries: Vol. I Etiology and Mechanisms. Basic and Clinical Aspects

Vol. II Prevention: Basic and Clinical Aspects

ARTICLES 123

WHY PATIENTS CHOOSE A PARTICULAR DENTIST 123

David Book, Dr. H. Jack Stockton

A MULTIDISCIPLINARY APPROACH TO PERIODONTICS 127

Edward Glick, BSc, DDS

MARKETING MANAGEMENT FOR DENTAL STUDENTS 129

Prof. William Preshing

ANAESTHESIA AND SEDATION IN THE DENTAL OFFICE 132

NIH, Bethesda, Maryland

SCIENTIFIC 137

APPLICATIONS OF OSSEOINTEGRATED IMPLANTS: A PRELIMINARY REPORT ON 35 CASES 137

J.M. Symington, BDS, MSc, PhD, FDSRCS (Eng), et al

THE ROLE OF EXTRACTION IN PERIODONTAL THERAPY 144

Claude C. Ibbott, DMD, FRCD (C)

ECTODERMAL DYSPLASIA ASSOCIATED WITH CLEFT PALATE AND LOBSTER CLAW DEFORMITY OF HANDS AND FEET 147

A. Ruprecht, DDS, MSc, FRCD(C), et al

CDA RSP 111

ANNOUNCEMENTS 154

MARKETPLACE 156

ADVERTISERS' INDEX 157

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Production/Circulation/Classified	Cheryl Elliott	Responsable de la publication, du tirage et des annonces
Journal production, scientific, clinical and general articles, announcements, marketplace, advertising, circulation.	Publication du Journal, articles scientifiques et cliniques, articles de caractère général, avis, annonces, publicité, tirage.	

THE PRELICENSURE PERIOD

It is always appropriate to seek ways to improve dental education with a view to ensuring that each new generation of dentists is fully prepared to meet the changing oral health needs of the population. In view of a number of developments in recent years, now is an especially appropriate time for some intensive exploration in this regard.

One of the ways put forward to improve dental education and so introduce some of the changes which appear urgent, is the introduction of a "mandatory postdoctorate prelicensure period". Following studies made in the United Kingdom and the United States, five or six years ago, this form of advanced dental education was recommended for implementation as soon as possible.

A recommendation such as this has some merit at first sight, but what would be its true meaning for Canadian Dentistry? What are the real advantages and disadvantages of such an extensive venture? Would the anticipated benefits warrant an additional year of training in clinical and administrative fields (supposing a prelicensure period would provide valuable experience in these fields)? What are the implications of such an undertaking on the actual dental curriculum and on the present dental care delivery system?

These questions and many others require the consideration of not just the dental educators, but of the future dental community as a whole. The concept

of a prelicensure period is a major development. The leaders of the dental profession must ensure full and free discussion of the concept in order to formulate timely and appropriate policies.

Such an opportunity for discussion will be given to the members of the profession at the Conference on Prelicensure which will take place on February 24th and 25th at the Chateau Champlain Hotel in Montreal. This conference is sponsored jointly by the CDA, the NDEB and CFDE.

Members of the dental profession with different backgrounds and interests will gather to examine the feasibility of implementing a prelicensure period in Canada following the completion of the undergraduate program. The advantages and disadvantages that the prelicensure period may imply for the patient, the student, the profession, the health care system and the government will be thoroughly examined.

Although the task of evaluating all these aspects is an onerous one, it is expected that this two day conference will enable the participants to reach a clearer understanding of the issues and contribute to the ability of the profession, as a whole, to influence future developments in dental education.

*Dr. J.P. Lussier
Former Dean,
Faculty of Dentistry
Université de Montréal*

News Update



Dr. Peter B. Innes

DR. PETER INNES NAMED DEAN SASKATCHEWAN DENTAL COLLEGE

Peter B. Innes, BDS, MDS, DDS, DMD, FRACS, who until recently served as Professor and Head of the Department of Oral Biology, College of Dentistry, University of Saskatchewan, assumed the office of Dean, effective January 1.

Dr. Innes succeeds Dr. Ernest R. Ambrose, whose resignation from that office became effective December 31, 1985.

His appointment is for a five and one half year term.

Born in New Zealand

A native of New Zealand, Dr. Innes was born in Auckland in 1941.

He received his BDS degree from the University of Otago, New Zealand, in 1963. In 1967, he earned an MDS from the same university (Department of Anatomy, Basic Dental Sciences). Dr. Innes was awarded his

DDS degree from the University of Otago in 1979.

Dr. Innes moved with his wife and daughter to Canada in 1968. He said he first became involved with the University of Saskatchewan's Dental College about the time it was established.

Teaching career

His teaching career began as a lecturer at the University of Otago in 1965. He continued in that capacity until 1968. From 1977 to 1982, he was senior lecturer at the University of Adelaide, Australia.

His first appointment at the University of Saskatchewan Dental College was as Assistant Professor in the Department of Anatomy, from 1968 to 1971. He became Associate Professor in the same department in 1971 and in 1975 received his promotion to a professorship. In 1982, Dr. Innes was appointed Professor, Department of Oral Biology and named Head of that department.

The University of Saskatchewan awarded Dr. Innes his DMD degree in 1971.

He received his fellowship, FRACS, from the Royal Australian College of Dental Surgeons, in Dental Surgery, in 1968.

His research activities were recognized and honored in 1968, when he was presented with the New Zealand Dental Association Award for Research.

Has published extensively

Dr. Innes' papers, covering a wide range of oral biology and medical subject matter, have been published in refereed medical and dental journals internationally, including the New England Journal of Medicine and the New Zealand and Australian dental journals.

Many other papers contributed and delivered by Dr. Innes have appeared in published conference proceedings and abstracts.

He has been an invited lecturer at conferences in a number of other universities, including the University of Auckland, New Zealand, the University of Western Ontario,

the University of Toronto and the University of Regina.

Interest in research

Dr. Innes has exhibited a keen interest in research and has secured major grants from the Saskatchewan Health Research Board to study: "The role of neural crest cells in craniofacial development" and "Differentiation of Oral Epithelium", a Medical Research Council supported project.

One of his fondest hopes as Dean, Dr. Innes told this Journal, would be to see "this school strengthen its research activities. We've got a good undergraduate program now."

Association activity

Described by his staff as a strong, active and popular supporter of university committees, Dr. Innes continues to be active in association work and the furtherance of other professional groups outside of the university sphere.

He has been a member, since 1982, of the Biomedical Grants Committee of the Saskatchewan Health Research Board; Chairman in 1976 of the Organizing Committee, Biennial Research Conference, Association of Canadian Faculties of Dentistry; a member, from 1974 to 1977 of the Dental Sciences Grants Committee of the Medical Research Council; a member, 1974-76, of the executive of the Association of Canadian Faculties of Dentistry; Chairman, during the same period, of the Research Committee, Association of Canadian Faculties of Dentistry, and, in 1973, a member of the Accreditation survey team, Faculty of Dentistry, University of Alberta.

Outdoorsman

In his moments of free time, Dr. Innes is a lover of the great outdoors. He enjoys camping, fishing and sailing. His two sons, aged 14 and 9, share their father's enthusiasm. In tune with the times, his sons also have a keen interest in computers.

The oldest member of the family, Michelle, 18, is a first-year student at the University of Saskatchewan.



PRESIDENT'S COLUMN

Dr. Brad Holmes

THE FUTURE BEGINS TOMORROW

Probably the most talked about topic lately, besides the weather, and the past, is the future. Where is our profession going, what will we be doing five or 10 years down the road? It would be nice to have a crystal ball that would tell us the future, but I'm sure we'll have to plan ahead without that assurance.

Recently the Executive Council of the CDA had a two-day planning session. They were days packed with a lot of head-scratching and soul-searching as we attempted to input into the future of our organization. Senior staff members also took an active participatory role in the deliberations. I feel that it was an extremely worthwhile exercise as it gave everyone a sense of ownership and participation in the future direction of CDA.

Many topics were discussed and debated. Many seemed to have no resolution, only some rather vague direction. I guess the most important fact coming out of the deliberations was the realization that it will be necessary to have strong support from the profession if we are to affect the future of dentistry in any way. It is to be hoped that any members of our profession who care about its future will stand up and be counted when the need arises.

Future membership in the CDA was discussed at length. The steadily declining membership in professional organizations in the United States gives us some cause for concern. We have been fortunate that CDA membership has been maintained, in spite of some adverse circumstances. Ten years down the road, will we still have only two voluntary provinces? Will governments flex their muscles and dictate which organizations can include membership in professional organizations as a condition for licensure? Will other dental organizations compete with the existing provincial and national bodies? Not easy questions to answer. The best chance we have of continuing our present level of viability is to continue striving to meet the national needs of the profession.

The CDA will be very active in the near future with some new initiatives. The Government Relations Committee is meeting for the first time in early 1986. This meeting will determine the priorities of the Committee for the coming year. The main thrust of the Committee will be to establish an ongoing relationship with several government departments so that CDA can be in a better position to initiate contact when issues of import to the profession arise. Dr. Ron Markey of Vancouver has been charged with the task of being the first chairman of this new committee.

CDA will be reviewing its entire convention structure. A committee has been established to review all aspects of conventions and to bring forward to the CDA Board their recommendations for future activity in the convention arena.

A two-day Symposium on Pre-Licensure is planned for this month in Montreal. The whole concept of pre-licensure will be discussed and hopefully some direction will be gained as a result of the deliberations. Representatives from across our country as well as some international guests will have input into the session. It promises to be a lively and interesting Symposium.

What is happening about manpower? This frequent question can now be answered, at least from a directional point of view. CDA has established a Manpower Committee which may have already held their inaugural meeting by the time you read this. This committee was established as a result of the Manpower Symposium in Toronto in October of 1985. It is hoped that this Committee can come to grips with the problem and offer some concrete solutions for the future — indeed, according to some people, our future depends on it.

CDA is committed to ongoing future planning. The Executive Council will recommend that the planning session recently held will become an annual event. It is human nature, as well as necessity that causes us to spend so much time on current issues and so little time on the future. We are so busy "stomping out fires" that we don't have time to plant some trees. We recognize the problem and hope that we can move into the future with our eyes open.

What are you doing about the future of your profession? Tell us your concerns — give us your support and help the profession move down the road to the year 2000 with greater awareness of what the future will bring. Let's not find ourselves in the all too common position of saying "if only we had planned."

HOW COMPUTERIZED SEARCHING CAN HELP YOU

Trudi Di Trollo B.A. M.L.S.

One of the most popular and greatly used services which the CDA Library/Resource Centre offers to its users is computerized searching. Through this facility bibliographies can be produced instantly on any number of topics, thus saving the Dentist a great deal of time and work. There are many information retrieval systems available to choose from but the system in place in the Library and the one which is best suited to the needs of the Dentist is called MEDLARS.

MEDLARS is made up of various data bases. Some of these are:

CANCERLIT which is a collection of cancer related material

TOXLINE which contains toxicological information such as adverse drug reactions and toxicity studies

HISTLINE which is the history of medicine and other related sciences online

HEALTH (Health Planning and Administration File) which deals with the non-clinical aspects of health care delivery such as manpower, dental insurance, quality assurance, accreditation, etc.

But MEDLINE is the most used of these data bases because it is the most comprehensive. It is the Index to Dental Literature and Index Medicus online and provides access to over 3,000 medical and dental journals on topics ranging from TMJ diseases to Oral Cancer to the dental implications of AIDS; or on the more practical side of dentistry, from staffing to appointments and scheduling to marketing your dental practice.

For example, if you were interested in finding out how valuable a computer would be to the management of your practice and you placed a call to the Library with this question the Librarian would probably decide to do a MEDLINE search for you. After discussing the topic with you and asking such questions as how far back you would like the search to go (MEDLINE goes as far back as 1966) and which languages you would like (MEDLINE is international) she would then check the word "computers" in her list of headings and would discover that this word is listed in the database and that "practice management" is listed as Practice Management, Dental. The Librarian would then be ready to search. She would dial a local number to establish a telephone link between the Library's terminal and the MEDLARS computer at the National Library of Medicine in Bethesda, Maryland*. After "logging on" and using a special password she would begin:

*MEDLARS is made available in Canada through the National Research Council

SS 1/C? (This is the first "prompt" from the terminal)

USER:
PRACTICE MANAGEMENT, DENTAL AND COMPUTERS (The Librarian then inputs the statement she would like researched)

PROG:
SS (1)
PSTG (97) (The terminal responds that there are 97 articles on computers in dental practice)

SS 2/C?
USER:
TS(LA) :ENG: (The Librarian requests articles in English or French only)
OR :FRE:

PROG:
SS (2)
PSTG (54) (There are 54 articles out of the 97 which are in English or French)

SS 3/C?
USER (The Librarian requests that these articles be printed)
PRT COMPR
PROG:

1
AU — Bennett WJ
TI — A method of computer system implementation
SO — Va Dent J 1985 Apr-Jun; 62(2):10-3

2
AU — Williams RJ
TI — Computer classroom. Part 2: down to business. . .
SO — Dent Tech 1985 Apr;38(4):6-7

3
AU — Banks T
TI — What basic features should system include?
SO — Dent Stud 1985 Jun;63(9):26,29

4
AU — Feldman CA
TI — Computerization vs. non-computerization: which team will you join?
SO — Dent Stud 1985 Apr;63(7): 14-9, 21-4

5
AU — Sokol DJ
TI — Word-processing: maximize your patient communications.
SO — Dent Manage 1985 May; 25(5): 35-6

And so on until all 54 articles are printed.
Note the abbreviations:
AU = Author of the article
TI = Title of the article

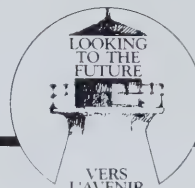
SO = Source of the article or the name of the journal containing the article, followed by date, volume and pages.

The copy of the print-out is then mailed directly to the requesting Dentist and he can then ask for photocopies of the articles listed. This service helps the Dentist in the following ways:

- Searching with the help of the computer saves hours of manual labour. The articles are produced instantly in an organized, printed list

- The searches are also much more comprehensive than manual searching. Many more references are usually retrieved
- These databases are also very up to date and in most cases, they are at least one month ahead of printed indexes, such as the Index to Dental Literature
- Searches cover both the clinical and the practical side of dentistry
- And, best of all, computer searches are free to all members of CDA!

CDA CONVENTION
AUGUST 24/27
HALIFAX '86



CONGRÈS DE L'ADC
24-27 AOÛT
HALIFAX '86

HALIFAX OFFERS FACILITIES TO ENJOY CONVENTION AND FAMILY VACATION

Halifax — in the heart of Canada's ocean playground, the land of the Bluenose, of Evangeline, of picturesque Atlantic ports (e.g. Peggy's Cove), of succulent fresh lobster, and a mecca for antique hunters — is the inspired choice of locale for Canada's major dental gathering of 1986 — the national Convention of the Canadian Dental Association.

The event is being staged from **August 24 to 27**, in the spacious, ultra modern facility, the World Trade & Convention Centre in downtown Halifax.

Because August seems to be the most favored vacation month for Canadian dental practitioners and academics, this occasion could conveniently combine the family vacation and attendance at the CDA Convention. The Convention Committee is prepared to make such a combination even more enjoyable and convenient by providing full baby-sitting and day care facilities, while dad attends Convention sessions and mom enjoys the spouses' program, shopping or sightseeing.

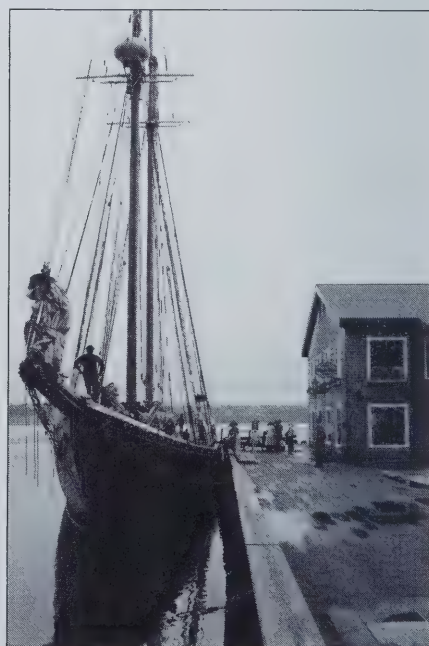
Bustling, growing city

Halifax, now a bustling, growing metropolis in an area of 285,000 residents, has enjoyed strong new expansion in recent years. It is the financial and commercial hub of Atlantic Canada and one of the world's greatest seaports. It has a remarkably compact downtown area. The major hotels, restaurants, entertainment centres and shopping areas are all within walking distance from the World Trade & Convention Centre.

Other attractions

With the ocean everywhere, there's a lot for convention delegates and families to see and do. At the downtown waterfront, history buffs can also enjoy shopping, in the Historic Properties area, where very old Halifax business premises have been restored to their early 19th century grandeur. Nearby is the home of the Bluenose II, a world-wide claim to fame for Atlantic Canada.

By night, lively indoor and outdoor pubs serve local Nova Scotian beers and ales. Fine



Bluenose II, an exact replica of the world-famous symbol of Atlantic Canada, rests in her berth beside the Historic Properties complex.

seafood restaurants specialize in fresh ocean fare. Other dining options include French, ethnic and traditional Nova Scotian cuisine.

Within the metropolitan area, there are more than 20 major shopping centres, some with a quaint historic atmosphere, others featuring well-known national chains.

Downtown shops display local carvings, quiltwork, woollens, fashions and Mic Mac Indian basketry. Nova Scotia pottery is made from provincial clay that is world-renowned. Art collectors can find paintings that range from Alex Colville to the possibility of new discoveries. Nova Scotia, of course, abounds in finds for antique collectors.

For those who enjoy live theatre, the Neptune has gained an international reputation for its year-round repertoire of drama and comedy. Colorful festivals are held in the city to commemorate maritime historical events.

Fishing and sailing charters leave from dockside. Five golf courses and numerous tennis courts are within easy access. An afternoon trip to Peggy's Cove provides an intimate introduction to the people and places of the ocean.

A visitor may enjoy the historical displays in the Maritime Museum of the Atlantic or the Nova Scotia Museum, free of charge.

Auto tours

Before or after the CDA Convention, the whole family may choose motoring tours along the Evangeline Trail through old Acadia, made famous in Longfellow's poem, or enjoy the Lighthouse Route, along Nova Scotia's south shore, recalling the province's proud maritime history, and visiting picture-postcard communities such as Lunenburg, Chester, Shelburne and

Liverpool. Or the family may wish to realize a cherished dream — to drive the Cabot Trail in picturesque Cape Breton. They may also relive a day in 1758 at Louisbourg, with appropriately costumed guides, viewing the ancient grandeur of New France within the meticulously restored fortress.

Convention program

The Convention Committee is completing the final details of what should be remembered as an outstanding program of high calibre educational, scientific and social events. The program will reflect the confident passage into the 21st century and "provide insights into the changing role of our profession in the exciting years ahead," a committee member reported.

The scientific program is being termed "world class." It will feature such internationally respected speakers as: Dr. Harold Slavkin, Dr. David Garber, Dr. J. Siebert, Dr. Derek Chisholm, Dr. Derek Jones and Dr. Michael Cohen. The emphasis in the program will be on the multidisciplinary management of the adult dentition to match people's growing expectations of functional oral health for a lifetime.

Manpower issues will be featured at a mini-symposium with both national and international input. As in past years, the main Convention program will be complemented by concurrent meetings of the Canadian Dental Hygienists' Association, the Canadian Dental Assistants' Association and a wide range of specialty gatherings.

A Convention Committee spokesman notes that "the successful practitioner will be the one who is prepared for the changes (in future years) and Halifax '86 will lead the way into the future."

1985 STUDENTS CONFERENCE HELD IN TORONTO

Bob Bar

The 1985 Canadian Dental Students' Conference was held in Toronto from October 23-26. In attendance were ten dental students each in his/her penultimate year of study representing each Canadian dental faculty. In addition two fourth-year dental students and two new graduates were also in attendance. This year's conference was jointly hosted by the Canadian Dental Association, University of Toronto, Faculty of Dentistry, the Ontario Dental Association and the Canadian Fund for Dental Education.

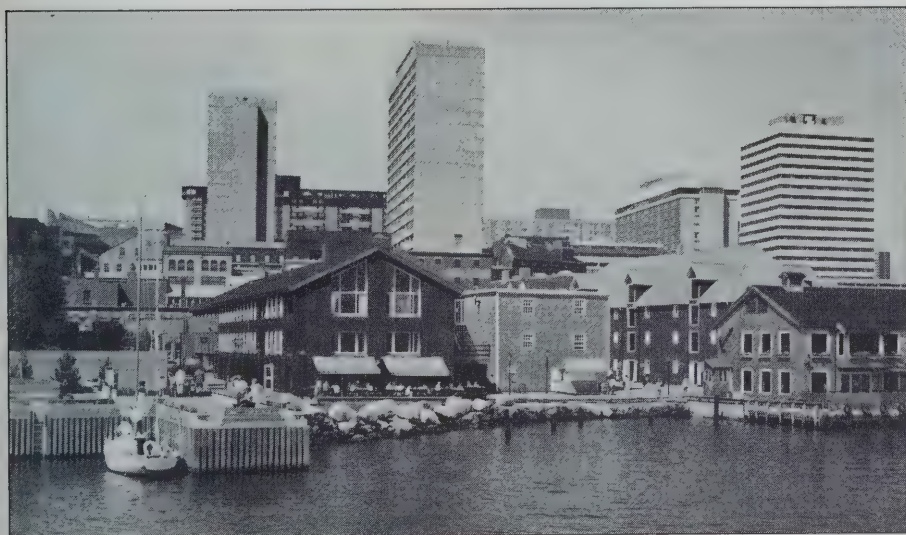
In addition to attending the conference, all 14 representatives also attended a meeting of the Council on Student Affairs on the last day of the conference and will attend another meeting of this council on April 7th in Ottawa.

Throughout the conference the delegates were addressed by a number of guest speakers dealing with many aspects of dentistry in Canada today. Dr. Gundega Kravis, Registrar of the National Dental Examining Board of Canada explained to the delegates the structure, function and importance of the NDEB.

Delegates also heard from Cyril Gallant, director of plans, CDSPI, on the various insurance packages being offered to students and new graduates. T.D. Rutherford who is a trustee of the Canadian Fund for Dental Education discussed the activities of the CFDE and all those in attendance agreed on the need for continued support by all members of the dental profession for this worthwhile fund. Other guest speakers included Dr. Rita Hurley who addressed delegates on the role of the CDA Membership Committee and Mr. Mark Sarnier who discussed the CDA's Dental Awareness Program.

The last day of the conference was devoted to the Council on Student Affairs business meeting. Topics for discussion included, the importance of CSA representation on the CDA Board of Governors, CDA membership of both students and practitioners, the Canadian Fund for Dental Education, and the CDA/Dentsply student clinician program. In addition Dr. Bob Brandon led a discussion on possible ways to revise the CDA's Practice Management Manual. Insurance benefits provided to students and new graduates through CDSPI and the activities of the American Student Dental Association were also reviewed.

The Council on Student Affairs would like to take this opportunity to thank the Ontario Dental Association for hosting the opening reception, Dean Ten Cate for the tour of the



Some of the bustling seaport business section of nearly 200 years ago, along Halifax harbour front, has been restored and now houses quaint shops and restaurants, against a backdrop of the skyscrapers of modern Halifax.

(Nova Scotia Department Government Services, Information Division, Photos)

University of Toronto Faculty of Dentistry, his interesting lecture on Dentine and Pulpal Healing and the luncheon that followed. We would also like to thank the University of Toronto dental students for letting us take part in their CDA/ODA information night.

In addition the Council on Student Affairs wishes to express its' sincere gratitude to Dr. J.W. Niedermayer, Executive liaison to the council and Miss Linda Teteruck, Director of Educational Services at CDA for

providing guidance and support throughout the conference.

Canadian Dental Students are aware of the important role the CDA plays in Canada's Dental Profession. As students we are grateful to be a part of this organization and it is hoped that we can continue to support and participate in the CDA in the future.

Bob Bar is a 3rd-year dental student at the University of Manitoba and chairman-elect of the CDA Council on Student Affairs.



Front row, left to right: Robert McCashew, U. of Alberta; Martin Bourgeois, Dalhousie U.; Madelaine Shildkraut, McGill U.; Dr. Dan Beck, Vancouver; Pam Zakarow, U. of Western Ontario; Liliane LeSaux, Chairman CSA, U. of Western Ontario; Bob Bar, U. of Manitoba; David Ciriani, U. of British Columbia; Mireille Homsy, Université de Montréal; Dr. Bob Brandon, London, Ont.;
Back row, left to right: Gale Blishak, U. of Saskatchewan; Tony DeLauri, Université Laval; Stephen Murray, University of Toronto, CDSC, 85 Co-Ordinator; Sam Sgro, McGill U., CDA Student Governor; Dr. Greg Lovely, Lockeport, N.S., CDA Past Student Governor; Dr. J.W. Niedermayer, Regina, CDA Executive Council Liaison, Linda Teteruck, Director of Educational Services, CDA, Joanne Collins, U. of Toronto

LIFE MEMBERS DONATE TO CDA RESOURCE CENTRE

Life Members of the Canadian Dental Association, following a resolution by Executive Council were approached through a letter from Dr. Ralph Crawford, to donate their annual membership dues, in whole or in part, to the Library Trust Fund. To date, Life Members have donated a total of \$2,165 to the Fund.

The Library Trust Fund is used mainly for the purchase of books, journal subscriptions and the online use of MEDLARS, which provides computerized literature searches to CDA members and non-members alike.

Established originally in 1951, the CDA Library expanded at a rapid rate. In 1967, the late Dr. Sidney Wood Bradley, an Ottawa orthodontist, left the Library a \$50,000 bequest from his estate. In honour of this benefactor, the Library was named the Sidney Wood Bradley Memorial Library, and bears this name still. During the

1970's, following the movement of CDA headquarters to Ottawa, there was a reduction in the Library's services and activities.

In the early 1980's, the CDA took another look at the Library and its activities, hired a full-time librarian, and the present Resource Centre began taking shape. Services available from the Resource Centre include computerized literature searches, traditional lending of materials, and photocopy services.

The current Head Librarian, Trudi DiTrolio, expressed gratitude to all those Life Members who have seen fit to make a donation to the Resource Centre.

"The CDA Resource Centre continues to be a popular member service, and with donations such as these we can continue to expand our journal collection, and expand our services to the membership of the CDA," she said.

Donations to the Library Trust Fund may be addressed to the Canadian Dental Association headquarters in Ottawa.

FORMER CDA PRESIDENT PASSES AWAY IN CALGARY

Dr. James Zimmerman, a noted Calgary, Alberta, dental practitioner, and CDA President for 1963-64, passed away recently at the age of 91.

Born in Russia in 1894, Dr. Zimmerman came to Canada at the age of 19. He attended Normal School in Winnipeg, and taught school in Saskatchewan for several years before entering Toronto's Royal College of Dental Surgeons. He graduated from the Royal College in 1920.

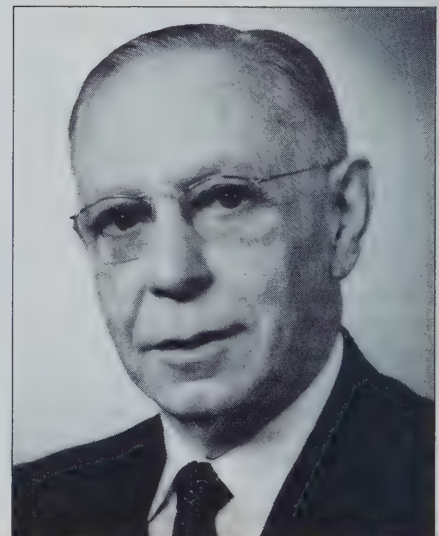
From graduation until 1924, he practiced dentistry in Taber, Alberta where he also distinguished himself in community activities. He was president of the local baseball club and was a founder of the Southern Alberta Hockey League, as well as its first president.

In 1924, Dr. Zimmerman moved his practice from Taber to Calgary, and remained in practice until 1974. In 1935 he was elected President of the Calgary District Dental Society. He became President of the Alberta Dental Association in 1954, and served as a CDA governor from 1955. In 1963 he was elected to the Presidency of the Canadian Dental Association.

During his years as a dental practitioner, Dr. Zimmerman worked to promote fluoridation and was a strong supporter of the value of continuing education for Canadian dentists. Long a supporter of community activities, Dr. Zimmerman was a past-President of the Calgary B'Nai B'Rith Lodge, the Knights of Pythias and the Probus Club of International Executives.

Dr. Zimmerman was a Fellow of the International College of Dentists, a Fellow of the American College of Dentists and a member of the Pierre Fauchard Academy.

He was predeceased by his wife Nell in 1975, and is survived by three children.



Dr. James Zimmerman

AN EXTRA \$100,000 IN YOUR RSP

Peter B. Dennett
Director of Retirement Services

It's funny how we like to leave things until the last minute, like filing our income tax returns, buying that birthday or anniversary gift, and, of course, making our RSP contribution.

The old adage "Time is Money" fits so well when it comes to RSP contributions. A simple matter of timing can increase your overall retirement income by well over \$100,000, depending on the time you have to let your funds grow.

If you are 35 years of age and contribute \$3,500 to your RSP, but wait until the March 1st deadline following the tax year, you are costing yourself money. If your contributions earn 11% compounded annually, over 30 years you will end up with \$759,864.

By changing one action of this investment pattern, that is, by making the contribution 14 months earlier in January of the tax year, your earnings will increase by more than \$98,000 over the same 30 year period.

What causes this large difference in accumulated dollars? It is the effect of compound interest. The earlier you put your money into a RSP, the sooner compound interest goes to work for you. This results in a larger accumulation of funds over the life of the plan.

Purchasing power of the dollar is important when your RSP matures. Inflation, even at a 4% or 5% annual rate, eats away at the purchasing power of the dollar. It is vital to accumulate as much retirement income as you can in order to maintain the lifestyle that you are enjoying in your working years.

Let us take another look at a 35 year old individual who deposits \$5,500 in a RSP, again at 11%, each January of the tax year, rather than waiting 14 months until the March 1st deadline. This individual will end up with more than \$154,000 in additional earnings at age 65.

This extra \$154,000 will enable him/her to purchase an additional \$1,600 a month of a life annuity with a 10-year guaranteed term. If rates are higher when the time comes to annuitize, of course the annuity will be bigger on a monthly payout basis.

By delaying your RSP contributions you face two disadvantages. First, you do not accumulate as much in your RSP and, therefore, end up with a lower retirement income overall. Secondly, you are probably paying additional tax money since your funds, if they are not in the RSP, are probably earning interest in a Savings Account or Term Deposit, and if your interest income is over

the \$1,000 permitted as a deduction, your unsheltered savings result in the interest being taxed at your marginal tax rate.

The examples here are using the smaller amounts relating to the rules that will be in existence for RSP contributions for 1985 only. With the increasing contribution limits over the next few years, timing can be even more important to increase your RSP not by \$100,000, but by \$200,000 or \$300,000, depending on the amount you put into the Plan.

If you are like most of us who run around scratching up \$5,500 each March 1st to make that contribution, why not try making your contribution each month. A deposit of

\$458.33 per month will give you \$5,500 over the year, and although your retirement income will not grow as large as the figures I mentioned, they will be substantially more than what you would have if you just deposited at the March 1st deadline each year.

To find out exactly how much larger your plan could be by making monthly contributions, write or call Peter Dennett, Director of Retirement Services, at CDSPI.

The CDA RSP can help you accumulate your RSP nest egg from five separate investment options. You can select one, or a combination of any of the five Funds.

IT'S YOUR PLAN — IT'S YOUR FUTURE!

PERIODONTAL RESEARCH BEING CONDUCTED AT THE UNIVERSITY OF ALBERTA

Dr. Michael Eggert

A clinical research study concerning diagnosis and treatment of chronic periodontal diseases in adults has been under way at the Faculty of Dentistry of the University of Alberta for the past two years.

Persons involved:

Dean Gordon Thompson

source of University support

Dr. Paul Schuller

chairman Division of Periodontics

Dr. Charles Baker

chairman Department of Stomatology
departmental support

Dr. Michael Eggert

periodontist, immunologist recipient of grants from:

Alberta Heritage Foundation for Medical Research and Medical Research Council of Canada

Dr. You-Cheuk Tam

clinician and microbiologist research Fellow,
Alberta Heritage Foundation for Medical Research

Dr. Pat Pierce

periodontist, study clinician

Dr. Paul Yeung

study clinician

Lynn Maenz, B.Sc.

microbiology technologist

Sources of funding for the study include

1) University of Alberta support for the clinical patient-related aspects of the study, including clinical work by Dr. Pierce and Dr. Yeung. 2) The Alberta Heritage Foundation for Medical Research provided Dr. Eggert with the basic laboratory facilities and major equipment, as well as supporting Dr. Tam as a post-Doctoral research Fellow. 3) The Medical Research Council has provided Dr. Eggert with a two year Operating Grant for ongoing research relating oral immunology to periodontal diseases.

The objective of the study is to develop diagnostic methods that accurately determine the success or failure of periodontal treatment at a much earlier stage in treatment than is now possible. Present diagnostic methods in periodontology are severely handicapped by their inability to demonstrate the dynamics of disease activity. Instead, the present methods provide static historical measurements of past periodontal tissue destruction. Clinical measurements more directly related in time to disease activity will permit better planning and selection of treatment in addition to helping the clinician monitor success at an earlier stage in treatment.

In addition to the work at the University of Alberta, this study involves collaborative contacts with dental microbiologists and periodontists at the Universities of McGill, Manitoba, Toronto and British Columbia.

In this study, patients have their periodontal conditions examined and documented in detail in the Clinical Investigation and Research Clinic at the Faculty of Dentistry, University of Alberta. This clinical phase of the study is performed by clinicians under the direction of Dr. Schuller. These patients then receive periodontal treatment and maintenance care that for some of the patients includes irrigation with the topical antiseptic chlorhexidine. During the course of treatment, dark field microscopy of samples from periodontal pockets of these patients is used to monitor levels of infection with spirochaetes and motile bacteria. Samples of saliva will be used to measure salivary antibodies against periodontal pathogens. This immunological aspect of the study is being supported by the Medical Research Council to determine whether clinically useful diagnostic tests can be developed from such measurements. There is a specific concern with early detection of recurrent disease after active treatment has finished.

TOOTHPASTE

by Cuspid

If the law, in the form of Revenue Canada, supposes that Crest or any other toothpaste is a cosmetic rather than a health product, it is indeed, as Dickens' Mr. Bumble described it: "A ass, a idiot".

And, at least in this instance, the dictionary supports the rather categorical, if ungrammatical, Mr. Bumble: Webster's defines cosmetic as "... relating to, or making for beauty, esp. of the complexion"; it defines dentifrice (Latin *denti* + *fricare* = to rub) as "a powder, paste or liquid for cleansing the teeth".

One might well ask why government, which, as former Prime Minister Trudeau averred, has no place in the nation's bedrooms, should suddenly intrude into its bathrooms . . . and above all why Ottawa would spend \$50,000 on a public opinion survey to determine whether or not Crest is a toothpaste. We might next see that ubiquitous man in the street being asked to ponder whether soap is for cleansing or for beautifying, whether or not disposable razors are whisker removers, or how many angels can dance on the head of a federally taxed pin.

Any toothpaste is surely an aid to health. Those containing fluoride have been shown to reduce the incidence of cavities in children's teeth by 40 per cent over the past 20 years. If tooth loss is caused mainly by poor dental care, and half of all Canadians over 60 are sans teeth, then the case for toothpaste being more than a cosmetic is even stronger.

The earliest dentifrices, traced back to about the 10th century BC, consisted of honey, perfume or other substances mixed with shells and animal bones.

In the 7th century BC when the Etruscans were already making crowns and bridges, extraction of teeth was being performed as a cure for bodily ills and diseases in recognition of the fact that dental health and bodily health were closely related. And, if one needs to enlist an encyclopedia as well as a dictionary to support the argument that toothpastes are more than cosmetic, *Britannica* carries the principal problem of dentistry — ergo, if toothpastes reduce the incidence of caries they have a therapeutic role to play. *Britannica* goes on to say that "the commonest preventive measures, practised from early times, are oral hygiene such as toothbrushing by the patient. . ."

Today's toothpastes contain a binding agent or thickener, humectants, to prevent water loss through evaporation; flavouring agents, and abrasives. In addition, there's water to add bulk to the mixture. . . and one or more drug substances such as fluoride. While soap was used as the main "cleaning" agent in toothpaste until the 1940s, it has since then been replaced by synthetic detergents.

A.R. Volpe, writing on dentifrices in "A Textbook of Preventive Dentistry" (W.B. Saunders Co., 1982) defines toothpaste as "a substance used with a toothbrush to clean the accessible surfaces of the teeth to provide one or more of the following effects: cosmetic, cosmetic-therapeutic and therapeutic".

Adverse effects of toothpaste, at least in recent decades, seem to have had more to do with whimsical and unnecessary additives such as chloroform and chlorophyll, and with the containers in which the product was sold. For example, no toothpaste manufacturer in North America today packages toothpaste in tubes made from lead.

In the US, the Food and Drug Administration (FDA) has jurisdiction over regulations on the safety and purity of toothpaste. Proof of efficacy is not required for toothpaste classed as cosmetic . . . but toothpastes with fluorides are placed automatically in the therapeutic category.

In Canada, Dr. John Stamm, formerly chairman of the Department of Community Dentistry at Montreal's McGill University, said that "careful brushing with toothpaste cleans the teeth so that the bacteria that are potentially damaging to the teeth and to the gums are removed". That's therapeutic.

Moreover, studies have shown that people who brush without toothpaste develop brown stains on their teeth — evidence that bacteria are building up. It is therefore hardly surprising that over \$1 billion worth of toothpaste is sold each year in North America.

Surely toothpaste has earned its place as a health aid. Government shouldn't be trying to squeeze it (from whichever end of the tube) for tax revenue.

Cuspid is a well-known Canadian health care writer who has over 500 published articles to his credit on issues facing health care in Canada.

NOMINATIONS FOR MANNING AWARDS BEING ACCEPTED, TO MARCH 1

March 1, 1986 is the deadline for the acceptance of nominations for the Ernest C. Manning Awards.

The Awards are given annually to a "person who has shown outstanding talent in conceiving and developing a new concept, procedure, process or product of potential widespread benefit to Canada and to society at large." The Principal Award is for an amount of \$75,000.

Started in 1982, the Manning Awards for 1986 also include two new Awards of Merit, worth up to \$25,000 each. The merit awards are for "persons who, without benefit either of advanced education or of substantial corporate, institutional or other outside support, show great talent and promise in creating new concepts, processes, procedures or products of potential benefit to Canada and to society at large."

To be eligible to win an award, the nominee must be a Canadian citizen, resident in Canada. Fields of endeavour may be the biological sciences, the physical sciences and engineering, the social sciences, economics, business, labour, law, government and public policy, the arts or the humanities.

Information and nomination forms are available from: The Manning Awards, 2300, 639 Fifth Avenue, S.W., Calgary, Alberta, T2P 0M9, 403-266-7571.

B.C. COLLEGE DEVELOPS DENTAL SIGN GUIDELINES

The College of Dental Surgeons of British Columbia has recently developed a set of guidelines regarding dental practice signs and office newsletters.

The College's By-Law 87A states that not more than two exterior signs stating a member's name and his 'vocational designation' may be used on the premises where that member practises. Only one of those signs may be a suspended one. Only one sign may be illuminated, and shall not be of an intermittent or neon type.

The guidelines state that lettering used in a sign shall not exceed 10 centimeters in height, and that words designating office hours may be added to an entrance sign in unilluminated letters, not more than five centimeters in height. Where the entrance is difficult to find, the words, "entrance on" may be added to the sign.

Mall circumstances differ

Drafters of the guidelines have noted that some member dentists in recent years have begun practices in shopping malls, department stores and other locations "which require, sometimes, by contract, a different

format of sign, one that is in keeping with the surroundings in which it is to be placed."

The Ethics Committee has considered various types of signs and agrees that they should be in keeping with their surroundings which may, on occasion, result in a deviation from the By-laws and Code of Ethics as stated above.

Thus the Ethics Committee believes it to be acceptable "to consider a sign that fits with the signs that are on adjacent premises in a shopping mall or other similar location." The Committee is prepared to accept that the environment may require that letters be larger on such signs (than 10 centimeters) "and other elements of style or content may be accepted as reasonable, given certain circumstances."

The Ethics Committee states that it continues to feel that signs should be in keeping with "the dignity of the profession. It becomes obvious when reviewing signs in various shopping malls, that some tend to be more garish than others, and certainly a dental office should be conservative in their approach to such signage."

No dictation by mall authorities

The guidelines make the point strongly that "under no circumstances should the dental office be dictated to by the owner of the mall. A sign that will not conform to the By-laws and Code of Ethics should be brought to the attention of the College via the Registrar *before it is made up*. That is, any member who is faced with some special problem or circumstance which might warrant a variance of any standard set out in the sections of Code or the By-laws relevant to signage, may appeal to the Council of the College, the Executive Committee or its delegate, who may grant a variation to the Code or By-laws as circumstances may dictate. This variance may include the size of the sign in total, the size of the lettering, the illumination, the contents of the sign, its relationship to the signage in the immediate area, and other details as required."

Use of logos

The use of logos in reference to dental practices on letterheads, business cards and, on occasion, signs, appears to be increasing in popularity, the B.C. College notes. It points out that logos are not permitted under By-law 87A. If a practice considers the use of a logo, that practice must apply for permission, and it may be granted by the College Council, Executive Committee or its delegate, as must all deviations from that by-law. In order to be considered, logos must be tasteful and dignified, as befits a health profession. Also, the logo

should not be considerably larger than the lettering or increase the size of the sign, but the logos should, if they are to be used, blend in with the sign indicating the dental office name.

The College states that only logos that are drafted in the aforementioned manner, will be considered for possible approval.

Practice newsletters

The College has also approved guidelines "which may help to provide understanding as to how the College recommends these areas be dealt with.

"The advent and utilization of patient newsletters can be a method of providing worthwhile information to the patients of a dental office. Such a newsletter could include:

- a. News about recent developments in dental science and treatment procedures. Where the information being provided is not established fact or established practice, but represents an opinion, this should be stated.
- b. Dental health education articles.
- c. Historical 'tid-bits' about dentistry.
- d. Nutritional information (as it relates to dental health) and sugarless recipes.
- e. Personal information with regard to staff and dentists, etc.

Any such information offered is considered a reflection of the professional opinion of the dentist(s) issuing the letter, and therefore, completeness and appropriateness of all articles should be carefully reviewed, prior to distribution. In addition, since the information provided is of necessity incomplete or in a very short form, patients should be informed of this shortcoming and encour-

aged to ask for more complete information from the dentist or his/her staff."

The College warns that there should NOT be:

- a. Any material or statements that could be considered as flamboyant, self-laudatory, or self-aggrandizing.
- b. Statements which could imply more skill, knowledge, care or courtesy than offered in any other dental office.
- c. Statements that a certain office enjoys superior facilities. For example — "latest modern equipment" or "modern methods" or "quality dentistry."
- d. Claims of "new", "unique", or "painless" methods of delivery."

The College explains in the guidelines that "newsletter distribution is to allow communication only with current 'patients of record' of the office." It states that "in office" distribution is acceptable. "It is not considered appropriate to encourage newsletters to be forwarded on to secondary persons, or to allow for other distribution methods to occur, such as out-of-office distribution techniques, so that members of the public who are not patients of record have access to the newsletter.

"The content and distribution of newsletters is at all times governed by the current Code of Ethics and Rules and By-laws of the College.

"The College suggests that any dentist preparing a newsletter submit it to the Registrar's office for review and possible comment which may avoid disputes concerning the propriety of various statements occurring after distribution of the newsletter."



Today I learned something new from an old friend.

You know, Thelma and I have been best friends since high school. Well, because Thelma is such a close friend, I thought I knew everything about her.

That is, until Thelma mentioned she'd just recently changed her will—to include a bequest for the Canadian Cancer Society.

Thelma said that even though she's always made annual donations to the Society, she wanted to do something extra. Because, she said, cancer can be beaten.

So then I thought, "Cancer *must* be beaten...and leaving a bequest is another good way I can help."

If you or your lawyer want to know more about the Society and what we do, telephone or write the Canadian Cancer Society.



This space contributed as a public service.

Briefly

A Halifax, Nova Scotia practitioner, Dr. Dan MacIntosh, has been named President of the Canadian Academy of Restorative Dentistry.

Dr. MacIntosh is president of the Nova Scotia Dental Board and is a member of the health services and insurance commission. He also teaches part time at the Faculty of Dentistry, Dalhousie University, in Halifax.

He was graduated in dentistry from Dalhousie University in 1965.

A recent campaign for fluoridation in the Western Quebec region known as the Outaouais (Hull, Quebec and environs) has had positive results.

The Québec centres of Gatineau, Hull, Aylmer, Buckingham and Masson, all voted recently in favour of water fluoridation. The total population affected is 182,000, and by press time, some of the towns mentioned had already added fluoride to the water supply.

Dr. Yves Normand, Chief of dental health programs for the Centre Hospitalier Régional de l'Outaouais is currently attempting to convince the town councils of both Mont Laurier and Maniwaki, Québec, to fluoridate.

A dental implant developed by noted Swedish dental researcher Dr. Per-Ingvar Branemark has received provisional acceptance from the American Dental Association.

The product, known as BIOTES™ is the first and currently the only dental implant to receive the ADA classification.

The implant system involves the use of titanium fixtures which are inserted into the jawbone. These fixtures become anchors for prosthetic teeth or appliances.

The product has, according to Dr. Branemark, undergone 20 years of clinical testing. It relies on the principle of osseointegration, which refers to the bonding of the titanium fixtures to the bone.

A unique television program recently came across the airwaves to cable television viewers in Quebec: a series of programs on dentistry aimed at the public.

Entitled "Your Teeth, Your Smile and You" the series, which lasted for 12 weeks, and ended in mid-December, 1985, covered a variety of topics, and featured a number of noted Canadian dentists and academics.

The programs, which were hosted and produced by Dr. Morton R. Lang, using the

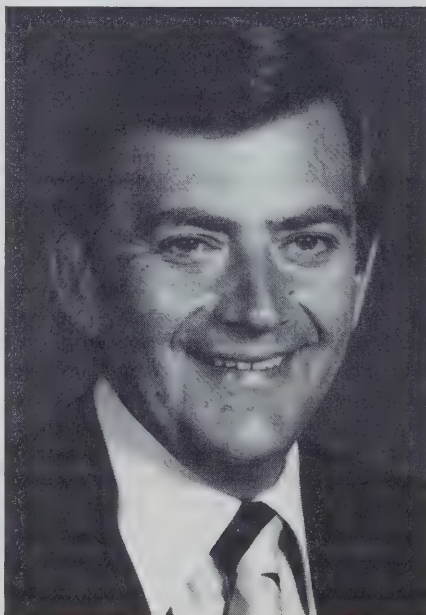
facilities at McGill University, were designed to educate the public about dentistry. Beginning with an overview of the dental profession, given by Dr. Ken Bentley, Dean at McGill's Faculty of Dentistry, and ending with a program on controlling fear and anxiety in the dental office, with Dr. Howard Katz, the programs covered gum problems, prevention of disease, x-rays, missing teeth, restoration, endodontics, pedodontics, orthodontics and geriatric dentistry.

The programs were carried by CF Cable TV in Montreal and were repeated at four different times during the weeks they were shown. Video cassettes are available by writing the Faculty of Dentistry, McGill University.

Dr. Lang, the host of the series, is a McGill graduate, and is currently Executive Director of Les Journées Dentaires du Québec. He has also won recognition for his contribution to dentistry and for his work in the community.

Dr. Gerald Z. Wright, a Canadian pedodontist, was recently elected Chairman of the American Board of Pedodontics.

Dr. Wright, who is a resident of London, Ontario, is Professor and Chairman of the Division of Pedodontics at the University of Western Ontario. He graduated from the University of Toronto in 1960 and is a Fellow of the Royal College of Dentists of Canada.



Dr. Gerald Z. Wright

Communicating effectively with the hearing impaired patient can be a difficult task for the health care professional.

That task has been made easier in the Province of Québec with the recent publication of "Comment communiquer en soins de santé avec les mal-entendants" (How to communicate with the hard of hearing about matters of health care).

The publication was supported by l'Institut Raymond Dewar, l'Ordre des pharmaciens du Québec, and l'Ordre des dentistes du Québec. It was written by Dr. Bernard Laporte, a dentist, and Mrs. Louise Matte, a student in pharmacy.

The authors expressed the hope that the pamphlet will sensitize health professionals about the special needs of the hearing impaired.

In addition to other informational detail, the guide contains an illustrated glossary of pertinent signs which will be of definite value to health care personnel.

Dr. F.G. Gollop, who passed away late in 1984, made a generous bequest from his estate to the Canadian Dental Association.

The bequest, a sum of \$9,000, was donated to the Canadian Dental Research Foundation, for use in dental research. The foundation is administered by CDA, and promotes dental research in Canada.

Dr. Gollop, who graduated in 1920 from the Royal College of Dental Surgeons of Ontario, was a dental practitioner in Ottawa for many years and was residing there at the time of his death. He was born in 1898, in Milton, Ontario.

Following the recent Executive Council meeting, the Canadian Dental Association honoured some members who had served on various Councils and Committees for some time.

Certificates of Merit were awarded to the following individuals: Drs. Ted Ramage, Ken Bentley, N.H. Andrews, H.W. Horsman, A.D. Crocker, E.K. Fukushima, C.T. McNichol, R. Roydhouse, D.L. Thompson, Peter Pronych, Walter Meyer, Marc-André Morand, W.D. Saunders, L.N. Johnson, W. Teteruck, Pierre Desautels, Normand Tardiff and, posthumously, to Dr. A.B. Hord.

A Certificate of Merit may be given to a member of the Association who has served the Association for a minimum period of one year as a member of the Board of Governors,

a Council member, or as a member of a committee of a Council and whose term in the respective area of service is deemed to be completed.

Letters of Appreciation from CDA President, Dr. Brad Holmes were sent to the following CDA members for their work with the Association: Drs. J.C. Giguère, Y. Giguère, G. Lovely, D. Beck and L. Trudel.

A dental researcher in Melbourne, Australia, claims to have developed a vaccine in paste form which will "dramatically cut decay" and thus revolutionize dentistry.

Geoffrey Smith told a press conference that the vaccine can be prepared for the patient's individual needs and dentists can monitor the effectiveness regularly.

Dentists can take a smear from the patient's mouth and send it to a pathology laboratory where the paste can be made up, the researcher explained.

Dr. W.H. Feasby, a member of the University of Western Ontario's Faculty of Dentistry recently donated two rare volumes to the CDA Resource Centre/Library.

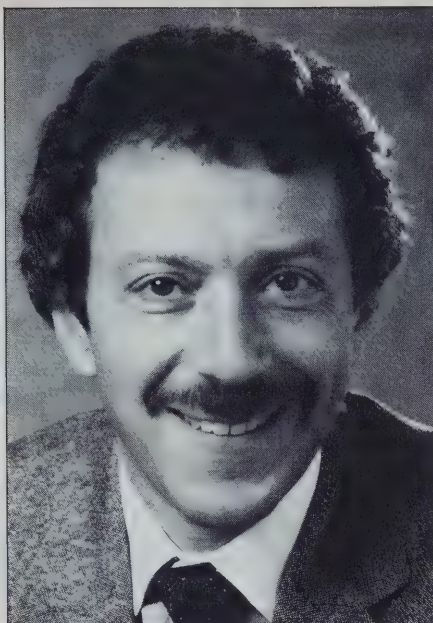
The publications, Volumes I and III of The Canada Journal of Dental Science, were published in 1869 and 1872 respectively.

"Few libraries are able to cite these two titles, which have been evaluated at \$800, as part of their collection," Trudi DiTrollo, CDA's Head Librarian, told the Journal. "The Resource Centre is very grateful for Dr. Feasby's generous donation."

Dr. Feasby graduated in 1943 from the University of Toronto, and has long had an interest in the history of Canadian dentistry.



Dr. W.H. Feasby



Dr. W.C. (Fred) Weinstein

The Canadian Academy of Endodontics recently elected their 1985-86 executive.

New President of the Academy is Dr. W.C. (Fred) Weinstein, of Vancouver, B.C. The President-elect, who lives in Westmount Quebec is Dr. Herb Borsuk. Dr. William Christie of Winnipeg, Manitoba is Secretary-Treasurer, and Executive Secretary is Dr. John Phillips of Oshawa, Ontario.

Dr. Brock Rondeau, a London, Ont., dentist, has been installed as President of

the International Association for Orthodontics at that organization's annual meeting, in Seattle, Washington.

Dr. Rondeau was graduated from the Faculty of Dentistry, Dalhousie University, Halifax, in 1966.

The 24-year-old Association has a membership of about 1,700.

The Canadian Society of Public Health Dentists recently elected their slate of officers to serve for a two-year term, 1985-1987.

The new President is Dr. Roger Ellis, of Edmonton, Alberta. President-elect is Dr. W. Jack Hamm, from Vancouver, B.C., while Secretary-Treasurer is Dr. Neil Farrell, who hails from London, Ontario. Past-president is Dr. Robert Romcke, of Charlottetown, PEI.

The newly formed Alberta Academy of General Dentistry recently elected its officers.

New President for the AGD branch in Alberta is Dr. Clifford Tym of Innisfail, Alberta. Vice-President is Dr. Henry Yu, of Edmonton and Dr. Eugene Dalla Lana of Calgary was appointed secretary-treasurer.

The provinces of Alberta and New Brunswick were recognized as the newest constituent Academies of General Dentistry during the AGD annual meeting held in July 1985.

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund
Fixed Income Fund
Common Stock Fund
Money Market Fund
Balanced Fund

Unit values as at
December 31/85 **November 29/85**
49.79459 48.91861
105.08592 103.05195
33.42385 33.16354
20.35336 19.95938

Interest rates:

Guaranteed Fund

Term

1 yr
2 yr
3 yr
4 yr
5 yr

*Interest rates as at
December 31/85 **November 29/85**
8.70% 8.65%
9.15% 9.35%
9.65% 9.85%
9.75% 10.10%
10.10% 10.3%

*(rates subject to change without notice)

Total Assets (Market value) of the Plan as of:

December 31/85 **November 29/85**
\$50,584,554 \$49,411,042

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:

Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area 497-7117

DENTAL AWARENESS PROGRAM UPDATE

CDA'S NEW SYMBOL FOR DENTAL AWARENESS

CDA's Dental Awareness Program has a new symbol for the Dental Awareness Program. You probably noticed it in the most recent *Communicate* and as part of the masthead for the **Dental Awareness Program Report** (Dec. 85). You'll be seeing it a good deal more in the months ahead.

CDA's new symbol takes as its single purpose, the graphic presentation of the theme of the Awareness Program: "Dental Health: GOOD FOR LIFE." From here on, that theme, in the form of the "GOOD FOR LIFE" symbol, will be the signature for all CDA's dental public education and promotion activities. This is meant as a formal introduction to this important communication tool: to what it is intended to do for the Program, where you can expect to see it and how it can help dentistry.

THE RIGHT IDEAS

The "GOOD FOR LIFE" symbol embodies the key ideas in the entire CDA campaign: that dental health is a significant health and quality-of-life issue; that it is a lifelong concern; and that it is an achievable personal goal.

These ideas are not new to dentistry. However, they are *not* widely known or appreciated by the public. On the contrary. As the first **Dental Awareness Program Report** indicates, Canadians subscribe to a number of serious misconceptions that must be addressed: about adult dental health in general, periodontal disease in particular; about the role of the dentist in prevention; about the consequences of neglecting regular dental care; and more.

There is, too, a need to increase the visibility and centrality of dental health as a public concern. It is incumbent upon the profession to get the right ideas across to Canadians. The "GOOD FOR LIFE" symbol provides CDA with an effective vehicle to deliver that message at each and every opportunity.



WHERE YOU'LL SEE IT

The "GOOD FOR LIFE" symbol will have its public launch as part of Dental Health Month 86. It forms a central element in all CDA's Dental Health Month promotional materials. Provincial Associations and community-level organizers will be integral to the launch through their own April program activities. Every CDA member will receive complimentary Dental Health Month promotional materials to identify the dental office with "GOOD FOR LIFE" from April on.

And on it will go to include a range of activities sponsored and jointly executed by the corporate sector. The "GOOD FOR LIFE" signature will appear on a variety of educational and promotional projects currently in negotiation with a number of interested corporations and targeted for high profile distribution throughout 1986.

Gaining visibility for the "GOOD FOR LIFE" symbol is vital to CDA's public education effort. Over time, it will become emblematic of dental health and of dentistry's commitment to helping the Canadians achieve it.

GOOD FOR DENTISTRY

In promoting a change in public thinking about dental health, CDA is working to encourage regular and timely utilization of dental services available through CDA members by establishing a new context for the appreciation of — and accessibility of — the profession.

Each and every time the "GOOD FOR LIFE" message appears it is explicitly linked to the Canadian Dental Association, and so to dentistry in Canada. The CDA identification conveys the profession's commitment to playing a productive role in preventing and controlling dental disease.

The phrase, "Let's Keep It", adds a secondary message (Dental Health: Let's Keep It GOOD FOR LIFE) that encourages people to see dentistry in the right light — as working *with* people to achieve better dental health. It helps counter, then, the idea that dentistry's primary function is to work *on* people to repair the consequences of neglect. It encourages people to take personal action. It conveys the message that the profession is here to help.

The "GOOD FOR LIFE" symbol, identified with CDA, tells Canadians that dentistry is committed to providing credible, authoritative information on their dental health. With every appearance on posters, buttons, information supplements, booklets, public service ads and the like, CDA is fostering a greater appreciation of the responsible role the profession is ready, willing and able to play in helping Canadians keep their dental health good for life.

COMING IN MARCH: A Dental Health Month Preview

Next month this space will be devoted to a rundown of CDA's activities for Dental Health Month 86. Watch for it.



CDIP Announces:

Guaranteed Conversion Privilege – The security you've been waiting for!

Beginning January 1, 1986, all CDIP Long Term Disability and Office Overhead coverage will automatically contain a Guaranteed Conversion Privilege. This feature guarantees that in the unlikely event that the CDA cancels the CDIP LTD and Office Overhead plans, without the availability of replacement group coverage, the insurer will provide individual non-cancellable, guaranteed renewable contracts to all participants who apply, regardless of their state of health.

Premium rates for the CDIP plans remain unchanged. Premium rates for the converted individual coverage will be negotiated every four years, and contractually guaranteed during this period. They will be competitive with current individual policies available privately.

This new Guaranteed Conversion Privilege offers you the security of guaranteed continuation of coverage, regardless of your state of health or the status of the CDIP plan.

At CDSPI, we're working together to secure your future!



**Canadian
Dentists'
Insurance
Program**

For further information or answers to any insurance question, call CDSPI's toll-free Central Information Service, and a Personal Service Representative will be pleased to assist you.

1-800-268-5418 Western Canada, Atlantic Canada and Ontario Area Code 807
1-800-268-3411 Québec and Ontario *except* Area Code 807
497-7117 Metro Toronto

This material has been approved by our consultants/brokers and insurers.

Research confirms that using Listerine Antiseptic significantly reduces Gingivitis.

Controlled clinical studies conducted by independent researchers confirm that using Listerine Antiseptic twice a day

can significantly reduce and help prevent gingivitis.

In a clinical study conducted over a 6 month period, it was demonstrated that when using 20 mL for 30 seconds – twice daily – Listerine Antiseptic effectively reduced plaque accumulation and gingivitis as compared with vehicle and water control rinse scores.¹

And in studies that scored

plaque build-up following a thorough prophylaxis, it was shown that using 20 mL of Listerine Antiseptic twice a day, along with regular brushing, reduced plaque build-up 20-50% compared to brushing alone.^{2,3,4}

So, in addition to daily brushing and flossing, recommend Listerine Antiseptic to your patients for greater protection from plaque build-up and gingivitis. Studies demonstrate that it is an important adjunct to their current oral hygiene regimen.

To obtain clinical evidence or additional product information, write to:

Warner-Lambert Canada Inc.
Oral Hygiene Technical Services
2200 Eglinton Ave. E.
Scarborough, Ontario M1L 2N3



- References: 1. LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983).
2. MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979).
3. ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976).
4. YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

Active ingredients: Alcohol 21.9% w/v, Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.42% w/v.

LISTERINE

An effective tool against plaque.

PAAB
CCPP

HEPATITIS B VACCINE AND AIDS

I have enclosed a brief update on safety of the Hepatitis B vaccine (Heptavax). I believe that this information would be of value to readers of the Journal, as there has been concern regarding its possible association with AIDS, in the minds of many practitioners. I believe that this short summary of the available scientific data would be of value to individuals in their decision regarding Heptavax.

Hepatitis B Vaccination and AIDS

The development and availability of the Heptavax vaccine (Merck, Sharp and Dohme) is a major development in vaccines and in prevention of Hepatitis B. However, fears that the AIDS agent may be associated with the vaccine have deterred its use in the past. When antibodies develop as a consequence of receiving the vaccine, the host is protected. The efficacy of the vaccine has been accepted since its availability.

The purification and inactivation process in preparation of the vaccine is known to inactivate all known human and animal viruses. The vaccine is sterile, and has not been associated with side effects on administration, including infectious diseases. No bacterial nor viral cultures demonstrate the presence of any viable pathogen. Sacks (1) and Stevens (2) provide no evidence of AIDS in individuals who receive the vaccine unless they were in a significant at risk group, and no greater frequency than an unvaccinated at risk group. An estimated 1.5 million recipients of vaccine have not developed AIDS nor Hepatitis B or other infectious illness associated with administration of the vaccine.

Since the HTLV III virus has been identified as the causative agent of AIDS, more direct evidence is available. Each of the processes used in production of the vaccine inactivates the HTLV III virus. No detectable nucleic acid sequences of the virus have been seen in the vaccine. Antibodies to the virus cannot be detected with sensitive assays, the reverse transcriptase enzyme cannot be detected and no viral antigen can be identified (3,4). No change in the T cell subsets have been identified (5). No seroconversion to HTLV III antibodies have been seen in vaccine recipients (6).

The individual must consider his or her risk and understand the nature of infectious disease and hepatitis B. The vaccine is effective and safety concerns appear groundless. The justification for not receiving the vaccine on the basis of fear of contracting AIDS appears indefensible.

References

1. Sacks HS et al. Should the risk of acquired immune deficiency syndrome deter hepatitis B vaccination? A decision analysis. *JAMA* 252:3375-3377, 1984.
2. Stevens CE. No increased evidence of AIDS in recipients of hepatitis B vaccine. *N Eng J Med* 308:1163-1164, 1983.
3. Papaevangelou G et al. Risk of AIDS in recipients of hepatitis B vaccine. *N Eng J Med* 312:376-377, 1984.
4. Poiesz B et al. Hepatitis B vaccine: evidence confirming lack of AIDS transmission. *MMWR* 33:685-687, 1984.
5. Stevens CE et al. Safety of the hepatitis B vaccine. *N Eng J Med* 312:375-376, 1985.
6. *MMWR* 33:685-686, 1984.

J.B. Epstein, DMD, MSD.
Division of Dentistry
Cancer Control Agency of B.C.
Victoria, B.C.

JCDA — 'EXCELLENT SUPPORT AND COMMUNICATIONS TOOL'

I wish to express the appreciation of myself and my co-authors for the excellent fashion in which you published our paper, "A Survey of All Dental X-Ray Machines in B.C. Using TLD Chips 1981-83." We were all impressed and pleased with the appearance of the article, and in particular, with the tables and figures. Thank you very much.

I have received the complimentary copies of this paper from you and requests for reprints have already been received as well. Thank you again for these copies. They will be put to good use.

The Journal is an excellent support and communications tool for Canadian dentistry.

A.S. Gray, DDS, FRCD(C)
Director
Dental Health Services
Province of British Columbia,
Victoria, B.C.

TEXT OF SPEECH 'SHOULD BE RE-READ'

Richard Ten Cate's reprinted speech that was included in the November *Journal*, should be carefully read again, I believe.

He predicts a changed future for dentistry, one that some may think is unlikely in some respects, undesirable in others. But readers should keep in mind that, in no small measure, Ten Cate is in a position to manage the future of dentistry and to ensure that his prophesies are fulfilled. He is Dean of our largest school at our largest university and he is in sole charge of the directions it will take. He has the agreement of this University's administration that dentistry has a place in the academic scene only by virtue of its basic research. We may expect, therefore, that his successor in a few years will, in this respect, be his clone. What one reads first as prophesy and prediction, one should re-read as a manifesto for radical change.

As usual, Dean Ten Cate is partly right and partly wrong. Where he is wrong, will soon be institutionalized, entrenched, almost sanctified, in this Faculty.

If, as he says, some of our dental schools must close, will he have kept this one alive or ensured its demise?

Hugh MacKay, Assoc. Professor
Faculty of Dentistry,
University of Toronto

BETTER PERSPECTIVE

I was pleased to see the favourable reviews of the books "Biocompatibility of Dental Materials" Vols. I to IV edited by me and David Williams in the October, 1985 issue of the Journal. However, a serious omission was the absence of any indication that the books were published in 1982! This gives rather more point to the comment of one of the reviewers that the references were "current" up to 1982! I do not know why it took so long for the Journal to review these volumes but I believe your readers should know the publication date since it puts some of the reviewers comments in better perspective.

D.C. Smith
Professor of Biomaterials
University of Toronto

'SOLUTION WITHOUT RELATED PROBLEM'

In suggesting the establishment of a Ph.D. program that would emphasize methods in clinical research (JCDA Nov. 1985) Dean Ten Cate presents a solution without having first established a related problem. True, he states that clinical research has been poorly done in the past, largely due to the failure to apply randomized controlled clinical trials. This can hardly be a problem of ignorance or lack of a Ph.D. since most Masters and Doctoral students take courses in biostatistics and experimental design. The concepts involved do not usually prove elusive to even the least intellectually gifted graduate student.

Clinical staff when confronted with the same lack of good clinical research are more likely to invoke the demands made by teaching, administrative duties in under-staffed schools and the failure of universities to attract adequate numbers of individuals who have the training, patience and time to undertake clinical research. I believe this view would have widespread support, yet Dr. Ten Cate abrogates university responsibility for these problems by stating "a simple change in administrative attitude is not the answer".

Dr. Ten Cate then goes on to denigrate the Masters degree ("a patina") and in several paragraphs of vacuous idolatry of the Ph.D. degree he prescribes it as the medicine for the perceived ills of clinical research which, although I have not done a clinical trial, would probably have a comparable effect to using an antibiotic to treat a sprained ankle. I do not want to suggest that people with Ph.D. training are not valuable in many aspects of clinical research (e.g. physicians frequently use the technical expertise provided by assistants with Ph.D.s in their investigations) nor that more Ph.D. projects involving clinical studies would not be wel-

come. It is difficult, however, to accept an analysis of the problems of clinical research that does not mention relevant clinical expertise and when it is proffered from the perspective of over a quarter of a century unencumbered by experience of patient care.

In contrast it is interesting to note an interview of Dr. I. Mandel, the A.D.A. gold medal winner for dental research in JADA (Nov. 85) which describes his view of the history and future of dental research. Not unexpectedly he advocates more research training with a "duality" where researchers are equally comfortable in laboratory and clinic. Not revolutionary perhaps, but by not stipulating the Ph.D. as a "minimum requirement" his approach is less likely to maintain the two solitudes within a dental faculty, i.e. basic scientists who know all of the answers but none of the questions and clinicians who know all of the questions but none of the answers. People do bridge this gap but there is still a problem in clinical research in dentistry and Dr. Ten Cate has, in part, described it. It seems simplistic to hope it would yield to the 1960's solution of throwing Ph.D. programs at it. Our best hope is for judicious balanced staffing, proper use of meagre funding and a collective responsibility for bringing about improvement.

*R.J. McComb
Associate Professor
Dept. of Oral Medicine & Pathology
University of Toronto.*

COOPERATIVE EFFORT YIELDS RESULTS

Several years ago the active co-operation of dental organizations at various levels was enlisted to assist in an attempt to influence USSR authorities to permit the emigration of one Dr. Mark Nashpitz, a Stomatologist,

from the USSR to join his parents in Israel. The response to the request was most gratifying. The C.D.A., several provincial organizations, local dental bodies and numerous individuals responded promptly and vigorously in making their support of his petition known to the Soviet authorities in Ottawa. In addition, it should be noted, useful and sympathetic assistance was obtained from various governmental sources.

On Sunday October 20, 1985 Dr. Mark Nashpitz was reunited with his parents at Ben Gurion Airport in Tel Aviv, Israel.

Without exaggerating the impact of our efforts, or attempting to interpret the potentially happy implications of the significance of this event in international affairs, it is at least interesting to know that after sixteen years of seemingly fruitless striving a sudden reversal of fortune has occurred.

No one expects to be thanked for participating in a humanitarian effort. It must, however, be gratifying that this prolonged effort in which so many of our Canadian colleagues collaborated and participated has culminated in happy success. We want you who helped-to know and to share.

*Harry Jolley, DDS,
Toronto, Ontario*

ATTRACTIVE JOURNAL

I would like to compliment you and the other members of the Journal staff for your interesting and colorful magazine. Your members must be very pleased with the work you are doing — you always seem to have current material presented in an attractive manner. Many journals receive a quick glance around here but yours is well read.

*Joy Register
Managing Editor
Florida Dental Association
Tampa, Florida*

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ORAL COMPLICATIONS IN CANCER PATIENTS

LES COMPLICATIONS BUCCALES CHEZ LES PERSONNES ATTEINTES DU CANCER

1. Carl W. *Oral complications in cancer patients*. American Family Physician, v. 27, no. 2, February 1983, pp. 161-170.

Abstract:

Ionizing radiation used in treating the head and neck area produces oral side effects such as mucositis, salivary changes, trismus and radiation caries. Sequelae of cancer chemotherapy often include oral stomatitis, myelosuppression and immunosuppression. Infections of dental origin in compromised patients are potentially lethal. Specific programs to eliminate dental pathology before radiation and chemotherapy, and to maintain oral hygiene during and after therapy, will minimize these complications.

2. DePaola, G. *The use of an interim protective prosthesis during cancer chemotherapy*. Journal of Prosthetic Dentistry, v. 49, no. 4, April 1983, pp. 527-528.

3. Dreizen, S. *Oral candidiasis*. American Journal of Medicine, v. 77, no. 40, October 30, 1984, pp. 28-33.

4. Greenberg, M.S. and others. *The oral flor as a source of septicemia in patients with acute leukemia*. Oral Surgery, Oral Medicine and Oral Pathology, v. 53, no. 1 January 1982, pp. 32-36.

Abstract:

This study was performed to determine the role of the oral cavity in causing septicemia in patients with acute leukemia. Thirty-three patients with acute nonlymphocytic leukemia were investigated prospectively via clinical, hematologic, and microbiologic techniques. The mouth was the most likely source of septicemia in seven of twelve cases. Necessary dental treatment prior to chemotherapy was accompanied by a significant reduction in the rate of septicemia. The authors conclude that oral sources of bacteremia should be eliminated prior to chemotherapy in patients with acute leukemia.

5. Hickey, A.J. and others. *Survey of oral/dental needs of patients receiving chemotherapy for malignant diseases*. Compen-

dium of Continuing Education in Dentistry, v. 2, no. 2, March-April 1981, pp. 92-95.

6. Jaffe, N. and others. *Dental and maxillofacial abnormalities in long-term survivors of childhood cancer: effects of treatment with chemotherapy and radiation to the head and neck*. Pediatrics, v. 73, no. 6, June 1984, pp. 816-823.

Abstract:

Sixty-eight long-term survivors of childhood cancer were evaluated for dental and maxillofacial abnormalities. Forty-five patients had received maxillofacial radiation for lymphoma, leukemia, rhabdomyosarcoma, and miscellaneous tumors. Forty-three of the 45 patients and the remaining 23 who had not received maxillofacial radiation also received chemotherapy. Dental and maxillofacial abnormalities were detected in 37 of the 45 (82%) radiated patients. Dental and maxillofacial abnormalities should be recognized as a major consequence of maxillofacial radiation in long-term survivors of childhood cancer, and attempts to minimize or eliminate such sequelae should involve an effective interaction between radiation therapists, and medical and dental oncologists.

7. Kudo, K., Yokota, M. and Fujioka, Y. *Immediate reconstruction using a scalp-forehead flap for the entire upper lip defect with the application of lyophilized porcine skin to surgical wounds. A case report of a malignant melanoma in the upper lip and oral mucosa*. Journal of Maxillofacial Surgery, v. 11, no. 6, December 1983, pp. 275-278.

8. McElroy, T.H. *Infection in the patient receiving chemotherapy for cancer: oral considerations*. Journal of the American Dental Association, v. 109, no. 3, September 1984, pp. 454-456.

9. McGraw, W.T. and Belch, A. *Oral complications of acute leukemia: prophylactic impact of a chlorhexidine mouth rinse regimen*. Oral Surgery, Oral Medicine, Oral Pathology, v. 60, no. 3, September 1985, pp. 275-280.

10. Overholser, C.D. and others. *Dental extractions in patients with acute nonlymphocytic leukemia*. Journal of Oral and Maxillofacial Surgery, v. 40, no. 5, May 1982, pp. 296-298.

11. Schwartz, H.C. *Osteonecrosis of the jaws: a complication of cancer chemotherapy*. Head and Neck Surgery, v. 4, no. 3, January-February 1982, pp. 251-253.

Abstract:

Two unusual cases of osteonecrosis of the jaws in edentulous patients are described. One case involved the maxilla and the other the mandible. Both patients were compromised hosts who were undergoing cancer chemotherapy. Both developed local mucosal infections beneath their dentures before the bone became involved. The role of dentures in producing local irritation and in masking the problem is discussed.

12. Shibuya, H. and others. *Maxillary sinus carcinoma: result of radiation therapy*. International Journal of Radiation Oncology, Biology, Physics, v. 10, no. 7, July 1984, pp. 1021-1026.

13. Wright, W.E. and others. *An oral disease prevention program for patients receiving radiation and chemotherapy*. Journal of the American Dental Association, v. 110, no. 1, January 1985, pp. 43-47.

One copy of the above articles is available at no charge from the Library to all CDA members. Non-members will be charged \$5.00. This bibliography was generated with the help of MEDLARS.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour \$5.00 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS.

NEW LIBRARY ACQUISITIONS

TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Basrani, Enrique. *Fractures of the Teeth: Prevention and Treatment of the Vital and Non-Vital Pulp*. Philadelphia: Lea & Febiger, 1985. 156p. 1 copy.
2. Moss-Salentijn, Letty and Hendricks-Klyvert, Marlene. *Dental and Oral Tissues: An Introduction*. 2nd edition. Philadelphia: Lea & Febiger, 1985. 323 p. 1 copy.
3. Ring, Malvin E. *Dentistry: An Illustrated History*. Toronto: C.V. Mosby Company, 1985. 319p. 1 copy. (Does not circulate).

Book Reviews

UNDERSTANDING DENTAL CARIES

Gordon Nikiforuk, DDS

*Volume I: Etiology and Mechanisms
Basic and Clinical Aspects
300 pages; \$34.75 US, 1985
Karger, New York, New York.*

*Volume II: Prevention
Basic and Clinical Aspects
290 pages; \$34.75 US, 1985
Karger, New York, New York*

The story about dental caries may be a "dry" subject but this is certainly not the case when the story is told by the author of this two volume text, Gordon Nikiforuk.

Dr. Nikiforuk acknowledges the vast amount and diverse sources of literature available in the study of dental caries. He has gathered all the information available and presents it in a coherent and orderly fashion. Most of the text has been written by the author which prevents fragmentation and isolation of chapters which are inherent in multi-authored books. Each chapter was submitted to chapter reviewers for critical evaluation. These reviewers are all world reknown experts in their respective fields.

Volume I contains ten chapters detailing the etiology and mechanism of dental caries from both basic science and clinical viewpoints. The clinical features and classification of dental caries is followed by chapters on the epidemiology of dental caries and as well an interesting review of early theories and current concepts regarding the etiology of dental caries.

In light of our current knowledge about dental caries it is amusing to note that worms were implicated as the cause of dental caries from about 5000 B.C. up until the middle of the last century. Fumigation devices were used for the relief of toothaches by the ancient Egyptians and as well in England as late as the 19th century.

It becomes apparent at the end of chapter 3, when the current concepts of the etiology of dental caries is discussed, that the subject is far more complex than the "worm

theory". The remainder of the volume satisfies the task of addressing this complex integrated disease.

The nature of tooth substance is discussed in chapter 4. The biochemical events leading to the formation of enamel are reviewed, as well as the crystallography of the tissue.

Chapters 5 and 6 detail the formation, structure and metabolism of dental plaque and discusses caries as a specific microbial infection. These chapters contain excellent electron micrographs of plaque bacteria and diagrammatic illustrations of the attachment mechanisms used by bacterial plaque to adhere to the salivary pellicle on the enamel surface. Very detailed information regarding *Streptococcus mutans* is provided in chapter 6.

Chapter 7 chronicles nutrition, diet (local substrate) and dental caries. The effects of vitamin D on tooth development are reviewed. The author discusses such classical but currently unethical human population studies as the Vipeholm Study performed in Sweden in 1939 and the Hopewood Study done in Australia in 1942.

The role of sucrose in dental caries, saliva and dental caries and the caries process (morphological and chemical) is presented in the final three chapters of the first volume.

Volume II contains twelve chapters dealing with the clinical aspects of preventing dental caries.

Fluoride and its importance comprises about one half of the material presented in this volume. Areas that are thoroughly covered include; water fluoridation; topical fluorides; fluoridated dentifrices; mouthwashes and the mechanisms involved in the cariostatic action and metabolism of fluoride.

The use of occlusal sealants is discussed in chapter 7. This chapter is somewhat out of date technically as it fails to discuss the "white-light" activated materials.

Chapters 8 and 9 discuss reducing diet cariogenicity and sugar substitutes. Three interesting case histories are presented emphasizing the importance of a detailed dietary record for managing patients with rampant caries.

The chapter on monitoring caries activity outlines the many microbiological tests available and their inherent limitations.

Chapter 11 discusses antimicrobial methods. Both mechanical and chemical methods of plaque control are thoroughly covered.

The final chapter discusses the research currently being conducted for the production of a vaccine that could provide immunity to dental caries.

These two volumes would provide an excellent textbook for courses in cariology, preventive, paediatric and public health dentistry. The book is also an excellent source of information for clinicians and anyone who seeks a greater understanding of dental caries.

*This book was reviewed by
Errol R. Nezon, DMD, MSc.
Paedodontist practising in
Willowdale, Ontario.*

RESTORATION OF THE PARTIALLY DENTATE MOUTH

J. Bates; D. Neill, H. Preiskel

*Quintessence Publishing Co.
Chicago, Ill.
315 pgs. \$42.00 U.S.*

This excellent book is a compilation of presentations and workshops of the International Prosthodontic Symposium held in London, England in November 1982. It is divided into two parts to mirror the program of that symposium. The first part deals with eight formal presentations given by recognized authorities. These presentations cover such a wide range of subjects that whether you are a practitioner or a prosthodontist you cannot fail to find something of value. The interesting discussions which follow the presentations encourage intellectual doubt on the subject matter. Subjects covered include periodontics, biomechanics, occlusion, mandibular movements, restorative materials, aesthetics, ceramics and overdentures. In that chapter (#4) by Hobo, one

attains a clear and concise explanation for existing assumptions in mandibular movement measuring systems, together with his own research contribution. If you bought the book for nothing else, this chapter would be worth it!!

The second part of this book deals with twelve workshops on, again, a wide variety of subjects, e.g. metals, guiding planes, abutment design, nonvital teeth. Each workshop is a superb review of their chosen material with extensive references. Chapter #17 had, for instance, 83 references on abutment preparations alone. But don't expect all the answers to our problems in removable prosthodontics, often the participants pose questions that they do not or cannot answer. Many of the workshop papers ended on such a note. Let me quote just two. On page 206, "Thus, while some measure of agreement exists on a number of the important and mucosal support factors involved in reducing stress on abutment teeth, there is a considerable scope for further investigation in those areas where doubt remains" (e.g. wrought or cast retention arms and mesial or distal rest seats on abutments in distal extension cases). The second is on page 266. "It is clear that no scientifically conducted research has been undertaken to determine the value of guiding planes in retention of dentures and effects on health of abutment teeth. This is a serious area of deficiency." Researchers where are you?

The authors of this work, Bates, Neil and Preiskel are to be congratulated for their excellent effort. It is obvious that they spent considerable time before, during, and after the symposium and this effort manifests in this book which should be included in the library of all serious students of prosthodontics. Their careful selection of the participants resulted in a fine melding of research, scientific and clinically oriented presentations which are comprehensive in structure, thorough in detail and interesting in content.

The publishers, Quintessence Books, are to be congratulated also. The quality of the type, paper, photographs and tables are excellent and their book mark ribbon is a pleasure to see in today's usual cost cutting conditions. There are 315 pages with illustrations and innumerable references.

Finally, Preiskel fittingly finishes his introductory remarks with "I trust that the publication of these proceedings will serve not just as a reminder of an interesting meeting, but will prove of value to all those who are interested in the Science and Art of prosthodontics." You know what, it will.

*This book was reviewed by
Dr. T.J. Harrop
University of British Columbia*

ETHICS, JURISPRUDENCE AND HISTORY FOR THE DENTAL HYGIENIST, 3RD. ED.

Wilma E. Motley, R.D.H.

Lea & Febiger, Philadelphia, PA.

Designed specifically as a text book for students of dental hygiene and a reference for graduates, the third edition of Ms. Motley's book provides interesting background information on the philosophy of ethics and jurisprudence, and describes the challenges of contemporary ethics.

In the initial chapters, Ms. Motley discusses an overview of the philosophy of ethics and applies this specifically to the dental hygienist by describing examples of real situations. This is an excellent method of focusing the reader's attention in an ethical direction with regard to practical matters that dental hygienists are confronted with every day.

Subsequent chapters deal with the law and health practice, history of oral hygiene, the American Dental Hygienists' Association and Challenges of Contemporary Ethics.

Because of the many intricacies of the law, Chapter 4, "The Law and Health Practice" has been written by Burton R. Pollack, D.D.S., M.P.H., J.D. and Rosalie D. Marinelli, R.D.H., M.S., both experts in their fields. As there are very few textbooks and comparatively few articles on the subjects of law and health practice, the authors of this chapter have described in non-technical language the legal process, the source of law, the regulation of dentistry and dental hygiene and the American court system. In many ways the American and Canadian systems are similar.

Issues that require special attention, such as legal vulnerability, vicarious liability, contractual responsibility, professional negligence, consent to care, treatment of minors, the provider-patient relationship, insurance and risk management are described in complete detail throughout this chapter.

As an adjunct to ethics and jurisprudence, the text also provides a comprehensive history of the evolution of oral hygiene and an in-depth look at the growth and development of the American Dental Hygienists' Association.

Even though the book is based on American jurisprudence and ethical considerations, it would be a fine addition to the library of all concerned Canadian dental hygienists.

*This book was reviewed by
Linda Stevens, BSc.D.
Executive Assistant,
Royal College of Dental Surgeons of Ontario*

ETCHED CAST RESTORATIONS: CLINICAL AND LABORATORY TECHNIQUES

Richard Simonsen, Van Thompson, & Gerald Barrack

*Quintessence Publishing Co., Inc.
1983*

*Chicago, Illinois
\$46.00 US*

This textbook is useful to dentists, dental laboratory technicians and students of both professions. This is not just another text on Maryland Bridges, but deals with other etch cast restorations such as periodontal splints and postorthodontic retainers. The 180 page book can easily be read in under four hours as 273 excellent illustrations (222 in colour) occupy much of the page.

Chapter I gives the historical development of the acid-etch, resin retained fixed partial denture. Chapter II describes the enamel etch and resin bond. The scanning electron microscope photographs clearly illustrate the three different types of etching patterns on human enamel. The Tables in Chapter III list the necessary conditions for etching Ni-Cr-Be, Ni-Cr and Co-Cr alloys.

The general considerations in framework design and tooth modification are dealt with in Chapter IV. Three general principles of design are amplified in a discussion of posterior and anterior design elements. With minor variations, the same basic techniques are applied to periodontal splints. A logical sequence of tooth preparation is given for anterior and posterior situations with colour photographs and diagrams illustrating each step. An equally important part of this chapter is the section on indications and contraindications, advantages and disadvantages. The potential problems have not been glossed over. Proper treatment planning is well emphasized. Impression materials and methods for making satisfactory working casts are discussed.

The steps in the clinical procedures given in Chapter V should be read both by dentists and dental assistants. The suggestions given will both save time and improve chances of optimum results. Clinical examples, documented with photographs, of the replacement of a mandibular incisor and a mandibular molar are given. Similarly, a periodontal splint is followed from examination to insertion.

Chapter VI describes fabrication of the casting. The introduction of a refractory cast material that can be poured directly into polyether or polyvinylsiloxane impression materials could certainly simplify fabrication. Also useful try-in techniques are given to check esthetics before the framework is etched.

Chapter VII deals with electrolytic etching of the suitable alloys. A method is given for removing polymerized resin from a bridge that is debonded. This suggests that if done properly, the framework need not be returned to the lab and re-etched.

Chapter VIII explores the use of etched cast restorations for postorthodontic retainers, long term splints for trauma situations, space maintainers, custom metal rest seats for partial dentures, and many combinations of the above. This chapter should stimulate innovative practitioners to invent new uses for etched cast restorations.

Because of the relative newness of these techniques, clinical evaluation will be an ongoing procedure. Hence Chapter IX in this text is only two pages long. The final chapter answers some commonly asked questions concerning the use of visible-light cured resins, try-in of etched castings, accidental contamination solutions, gold plating, and fees.

Complete references are given at the end of every chapter and a subject index at the end of the book is good. The quality of the illustrations is a credit to both the photographer and the publisher.

*This book was reviewed by
Col. L.C.R. St-Pierre
Head of Prosthodontics
Canadian Forces Dental Services School,
Borden, Ontario*

THE STOMATOGNATHIC SYSTEM

Function, Dysfunction and Rehabilitation by Franco Mongini

*Quintessence Publishing Co. Inc.
Chicago, Illinois.*

Dr. Mongini is a researcher and clinician who has lectured in Canada. His book begins with a consideration of function and dysfunction of the stomatognathic system. An outline of the remodelling process in the temporomandibular joint and the difference between this and degenerative joint disease is first discussed. Chapters follow on the articular disc, its normal function and disc condyle incoordination and locking. The temporomandibular joint as a load-bearing joint is next considered, as are neuromuscular factors, mandibular movements and occlusal factors.

The second part of the book is devoted to diagnosis and treatment. Chapters are given over to examination of the patient and radiography of the temporomandibular joint. Unfortunately, there are no details of the new imaging techniques which must surely play a large role in the future understanding of these problems.

Treatment is dealt with exhaustively — from the use of splint therapy to occlusal

therapy, orthodontic treatment and prosthodontic treatment. Other modalities such as biofeedback therapy and exercises are also discussed. The final chapter is devoted to a consideration of clinical cases.

While mentioning most types of treatment in current use, the author has attempted to show the indications for each of these. One might argue that some of the methods mentioned have not been proved effective — especially in the long-term and perhaps this fact should have been discussed more fully. Also some quite sophisticated modalities have now been shown to be no more effective than simpler ones, e.g. biofeedback assisted relaxation training and simple relaxation training produce similar outcomes. These sorts of facts, too, are important considerations which might have been brought out. The long term efficacy of surgery is by no means decided.

Editing leaves much to be desired. Several references are incorrect with authors' names incorrectly spelled, etc. In these days when so many books on temporomandibular joint and facial pain problems are being produced, only those books of the very highest quality, which break new ground, can be recommended. I am not too sure that Dr. Mongini's book falls into this category.

*This book was reviewed by
Dr. R. Brooke,
Dean of the Faculty of Dentistry,
University of Western Ontario.*

What's Under Your Restorations?

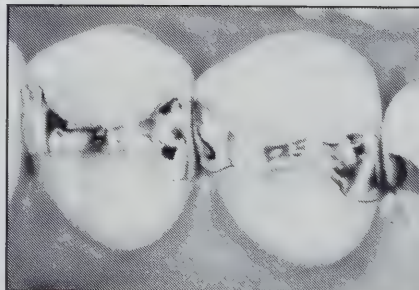
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¹ Brännström, Martin, Odont DR. Communication between the Oral Cavity and the Dental Pulp Associated with Restorative Treatment. *Operative Dentistry*, 1984, 9, 57-68.

² Meiers, J.C., and Schachtele, C.F., "The Effect of an Antibacterial Solution on the Microflora of Human Incipient Fissure Caries," *Journal of Dental Research*, January, 1984, Vol. 63, No. 1.

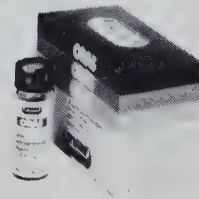


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(Scientific articles)

Previously unpublished articles, critical reviews of material on advances in dentistry and clinical reports are welcomed by the Journal of the Canadian Dental Association for consideration for publication. Material is accepted by the Journal on the understanding it is submitted solely to this publication.

Scientific Articles: should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

Major Reports: are longer contributions dealing with diagnosis and treatment of dental disease, studies in education, clinical and laboratory research and other detailed investigations pertinent to dentistry and related fields.

Clinical Reports: are brief (up to 1,500 words) reports, case histories and clinical observations. References should be limited and a minimum number of illustrations used.

Opinions: fully documented (800 words or less), are welcome for publication at the discretion of the editor.

Word Count: is based on the calculation of approximately 250 words typed, doubled-spaced on 8½ × 11 paper.

Manuscript Requirements: Submit three (3) copies (original and two copies) to the editor, Journal of the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6. All graphs, photographs, charts and tables must also be submitted in triplicate.

A covering letter and a summary of the submission must accompany each article. Abstracts will be translated into French. The full mailing address of the corresponding author must accompany each manuscript.

The editor reserves the right to edit manuscripts for stylistic consistency, clarity and conciseness. The corresponding author will receive a copy of the edited manuscript for checking prior to publication. Galley proofs will be forwarded to authors but changes other than correction of typographical errors will not be accepted. Authors will be given a 24-hour turnaround time. No exceptions will be made. Authors must list professional degrees, academic/hospital affiliations and appointments and are requested to **submit a photograph** of themselves for publication with the article.

Note: Manuscripts must be typed, doubled spaced on 8½ × 11 paper on one side of the page only. An abstract must accompany each manuscript.

References: must be keyed to the text and numbered consecutively. Journal references must give the author's name, article title, abbreviated journal name, volume number, first page number and last page number of article, year of publication:

1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. *JCDA* 44:173-184, 1978.

For books, give the author's name, book title, location and name of publisher, year of publication:

2. Kilpatrick, H.C. *Work simplification in dentistry*, ed. 2. Philadelphia, Saunders, 1964.13

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COME TO BERMUDA FOR SUN, FUN, AND PROSTHODONTICS

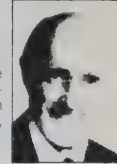
THE BERMUDA INTERNATIONAL PROSTHODONTIC CONFERENCE

Sponsored by the
BERMUDA DENTAL ASSOCIATION
June 28, 29, and 30, 1986 —
Southampton Princess Hotel

1986 Focus: "Restorative, Reconstructive, and Replacement Dentistry — a Clinical Perspective"



Thomas J. Balshi, DDS, FACP
Philadelphia (Fort Washington), PA, USA



Conrad E. McFee, DDS, MDS, FACP
San Antonio, Texas, USA

Drs. Balshi and McFee are: Diplomates, American Board of Prosthodontics; Fellows, American College of Prosthodontists; Both have served on the Private Practice Committee of the American College of Prosthodontists. Drs. Balshi and McFee are engaged in fulltime Clinical Private Practice, limited to fixed, removable and implant prosthodontics.

CONFERENCE TOPICS: FOCUS — CLINICAL PRODUCTIVITY and ECONOMY OF TIME — A PHILOSOPHY OF PROSTHODONTIC PATIENT MANAGEMENT

Conference topics will include the following

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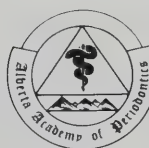
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The Alberta Academy of Periodontics

The Academy is honoured to present *Dr. Robert J. Genco D.D.S., Ph.D., Professor and Chairman, Department of Oral Biology, State University of New York, in a two day programme, April 11 and 12, 1986, in Calgary.*

Dr. Genco has a dynamic and effective way of providing information derived from research in an understandable fashion for those in clinical practice. He will present data from his own Periodontal Disease Clinical Research Centre as well as other studies relating to the diagnosis, etiology, pathogenesis and treatment of periodontal disease. We are especially fortunate to have a man of Dr. Genco's status come to this area.

We have limited seating available so to ensure the best meeting possible please register as soon as possible. The tuition fee will be \$225.00 for dentists and \$90.00 for auxiliaries and students.

Registration can be made to **Dr. Malcolm Miller**
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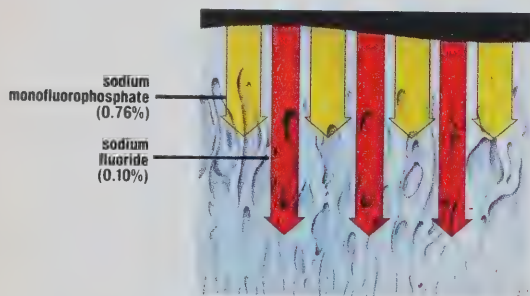
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean that these fluorides may work in different ways in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

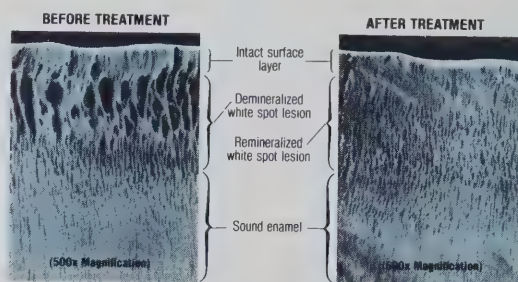
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



This more complete remineralization has been demonstrated in laboratory studies,⁽⁷⁾ and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

Colgate with this two fluoride concept was tested in a three year clinical study.⁽⁸⁾ The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

Conclusion.

Colgate's two fluoride formula provides superior cavity protection to a single fluoride formula*: *Only Today's Colgate has a two fluoride formula.*

When you recommend Colgate you're recommending an innovative product—offering advanced and clinically tested cavity protection.

*Sodium monofluorophosphate (0.76%)

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*Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

PARTNERS IN PREVENTIVE DENTISTRY.

Specialty Features

WHY PATIENTS CHOOSE A PARTICULAR DENTIST

David S. Book, H. Jack Stockton, DMD, CFP



Mr. David Book is a second year dental student at the Faculty of Dentistry, University of Manitoba.

ABSTRACT

Marketing is becoming an important part of dental practice in the 1980's. Dentists could be much more efficient and effective in marketing their practices, if they were aware of the relative importance of the various factors which influence patients in the selection of a dentist. Very little research has been done in this area. This study, through a survey of 521 adults in Winnipeg shopping malls, examines the relative importance of the various factors affecting dental patients in their selection of a dentist. Referral by family and friends and convenience of location were found to be the two most important factors. Media advertising and personal involvement in service/community clubs were found to be relatively unimportant factors.

Results of the study also appear to be independent of the patient's income level, frequency of attendance at dental offices and whether the selection of a dentist was made in an emergency or non-emergency situation.

SOMMAIRE

Les années 1980 voient le marketing prendre de l'importance en médecine dentaire. Les dentistes pourraient être beaucoup plus efficaces en faisant la promotion de leurs cabinets s'ils connaissaient l'importance relative des différents facteurs exerçant une influence sur les patients lorsqu'ils choisissent un dentiste. Très peu de recherches ont été faites à ce sujet. La présente étude a été effectuée à partir d'un sondage fait auprès de 521 personnes dans des centres commerciaux de Winnipeg et analyse justement ces différents facteurs. On a découvert que les deux qui priment sont la publicité faite par la famille et les amis ainsi que l'emplacement du cabinet. Par contre, les annonces faites par les médias et l'engagement personnel dans des cercles ou des services communautaires se sont révélés des facteurs relativement peu importants. Par ailleurs, l'étude a semblé démontrer que le revenu du patient, la fréquence des visites chez le dentiste et le choix d'un dentiste fait dans un cas d'urgence ou non ne constituent pas des facteurs déterminants.

Fifteen or twenty years ago, opening a practice of dentistry was usually a guaranteed success. At present, because of a possible oversupply of dentists, the road to success has become increasingly precarious. Thus, it is essential for a dentist to have a firm understanding of today's competitive marketplace in order to ensure a successful



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practice. Whereas successful dentists of yesteryear simply had to open their doors, the successful dental practitioner of today must possess the two key abilities that make for a thriving practice. These are, one, the ability to attract new patients, and two, the ability to keep existing patients. Logically, it follows that dentists must first attract patients to their office before they can implement strategies to retain those patients. Therefore, it is very clear that the dentist's ability to attract patients is of utmost importance. Attracting patients can be thought of as the essential first step towards building a successful practice, just as getting customers in the door is the necessary first step

towards establishing a successful grocery store. From this observation arises a very pertinent question and the focus of this study. "Why do patients choose a particular dentist?"

A knowledge of the factors which may influence individuals in their selection of a dentist would be a most valuable possession. With such information, dentists could modify certain aspects of their practice and perhaps even themselves in order to make their practice more appealing to the potential new patient. Furthermore, with insight into which of the selection features are truly influential for a particular market, a solid and cost-efficient marketing scheme could be devised. In this study, with use of a survey, several of the probable reasons for choosing a particular dentist were examined. The project attempted to determine the relative importance of each selection factor, as well as how their degree of influence varies with varying circumstances, such as annual income, the emergency versus non-emergency and infrequent versus regular patient.

An initial search of the dental literature revealed a certain amount of material dealing with the reasons why patients are attracted to a particular dentist. However, the majority of these publications and articles did not deal specifically with our point of interest, the initial selection process. Most of the literature dealt with patient satisfaction and why patients choose to stay with, or leave their dentist. The literature that specifically dealt with influential reasons for initial selection was most often the result of

the author's self-formed conceptions on the subject and not the result of statistically backed data. The only notable article found that did use a survey format to arrive at conclusions was by Erika Garfunkel (1980)³.

METHODS

The survey was devised as follows: Upon completion of the literature search, an extensive list of potential selection factors was compiled. This was reduced to the following:

1. Dentist's office is open convenient and extended hours.
2. Recommended by a friend or relative.
3. Recommended by another dentist, physician, pharmacist, etc.
4. Dentist has reasonable fees.
5. Met dentist socially or heard of dentist because of activity in civic or community affairs.
6. Saw dentist's name in yellow pages, directory, newspaper, etc.
7. Dentist's office is conveniently located.
8. Did not have to wait too long to get an appointment.
9. Other reasons.

Respondents were instructed to place a single check beside all those factors which influenced them to choose their dentist and place two checks beside the single most important reason. In addition to determining the influence of selection factors, supplemental questions were asked in order to determine how the influence of the selection factors might possibly change with certain variables. The questions asked were:

1. Do you see a dentist regularly?

2. If you have a regular dentist, did you select the dentist in an emergency situation or for a regular check-up?

3. Sex, age and range of annual income for family.

The survey was conducted in the greater Winnipeg area in three major shopping malls. The malls surveyed were Garden City (suburban area), Polo Park (suburban-industrial area), and Eaton Place (urban area). Surveys were taken Monday through Friday between approximately 10:00 a.m. and 4:00 p.m. Potential respondents were stopped, and asked if they would mind completing a survey from the University of Manitoba, Faculty of Dentistry. If the respondent agreed, they were handed a clip board with a survey and a pen. The interviewer stood by and was available to answer any possible questions while the survey was being completed. Respondents were chosen from the traffic flow in the mall purely by a random selection process. With roughly equal representation from each mall, a total of 521 surveys were completed (222 – male, 299 – female) (Table 1).

RESULTS AND DISCUSSION

Analysis of the results of the survey clearly indicate that recommendation by a friend or relative and the convenience of the dentist's office location are the two most influential selection factors. Both factors exhibited similar values in their total frequency of response. Nonetheless, recommendation by a friend or relative was chosen as the most important reason by 35.7 per cent of those surveyed as opposed to the

TABLE 1

POPULATION SURVEYED

ANNUAL INCOME	No.	%
less than \$10,000	28	5.4
\$10,000 – \$15,000	34	6.5
\$15,000 – \$25,000	119	22.8
\$25,000 – \$35,000	117	22.5
more than \$35,000	107	20.5
income not indicated	116	22.3
TOTAL:	521	100.0

AGE	No.	%
18-25	92	17.7
26-40	228	55.3
41-60	138	26.5
61-plus	3	0.6
TOTAL:	521	100.0

DO YOU SEE A DENTIST REGULARLY?	No.	%
YES	390	74.9
NO	131	25.1
TOTAL:	521	100.0

TABLE 2

WHY DID YOU CHOOSE YOUR DENTIST?

(Respondents asked to check all reasons that may have influenced them once and check the most important reason twice)

	*TOTAL INFLUENCE	%	MOST IMPORTANT REASON	%
R ₁ = dentist's office is open convenient & extended hours	228	15.2	51	9.8
R ₂ = recommended by a friend or relative	336	22.4	186	35.7
R ₃ = recommended by another dentist, physician, pharmacist, etc.	98	6.5	42	8.1
R ₄ = dentist has reasonable fees.	158	10.6	31	6.0
R ₅ = met dentist socially or heard of him because he is active in civic or community affairs.	55	3.7	15	2.9
R ₆ = saw his name in yellow pages, directory, newspaper etc.	40	2.7	8	1.5
R ₇ = dentist's office is conveniently located.	312	20.8	109	20.9
R ₈ = did not have to wait too long to get an appointment.	237	15.8	31	6.0
R ₉ = other reasons.	33	2.2	9	1.7
NO RESPONSE			39	7.5
TOTAL:	1497	100.0	521	100.0

*Total of respondents checking each factor as an influence in initially selecting their dentist.

20.9 per cent who chose convenience of office location. (Table 2). This stresses the importance of the dentist's interpersonal skills. It is these types of skills that determine how patients perceive their dentist and consequently how enthusiastic they are in discussions with their friends or relatives. Satisfying existing patients appears to be the best means of attracting new patients. Though not as highly represented in the survey, a convenient location would obviously be of greatest importance to a young dentist just starting up an entirely new practice. The dentist would not as yet have existing patients who could provide recommendations, and thus the location would be the practice's number one drawing card. One additional point worth mentioning regarding convenience of location was brought to attention by several respondents who selected it as an influential factor. They said that when initially choosing their dentist, location was a factor, but even when their dentist relocated, they remained with the practice if satisfied with services rendered.

By evidence of the survey, the availability of dentistry is quite influential in the selection process. Two other factors, not having to wait too long for an appointment, and convenient and extended office hours, displayed similar statistics in their percentages of the total response. However, convenient office hours seems to hold more weight, as it was selected as the most important factor by 9.8 per cent of those surveyed as opposed to only 6 per cent who chose not having to wait too long for an appointment. This data suggests that the dentist's flexibility is important in attracting new patients. Office hours during evenings and weekends are very attractive to working individuals who are unable to take time off from work. As well, being able to see patients on short notice is important. If a patient does not have to wait a long time

for an appointment, he or she is unlikely to look elsewhere for services. Thus, it would appear important for dentists to make sacrifices with their schedules in order to accommodate the schedules of patients.

The next selection factor of interest, recommendation by another professional, provided an interesting set of statistics. Although the total frequency of response was only 6.5 per cent of those surveyed, it displayed an 8.1 per cent showing as a most important reason. Out of the 98 individuals who checked it as an influential selection factor, 42 of those said it was the most important selection factor. A point to be mentioned is that while completing the survey, several respondents verbally expressed the fact that their dentist was selected by recommendation from their previous dentist who was retiring or leaving town. Keeping this point in mind, one can realize that the benefit of having a wide array of professional acquaintances goes far beyond that of consultations. Therefore, it would be a good idea for a young dentist to make as many contacts with fellow professionals as possible and to consider purchase of goodwill from retiring dentists.

The dentist's fees was a selection factor which was chosen quite frequently (10.6 per cent of those surveyed). It was chosen as the most important reason by 6.0 per cent. Hence, fees do appear to be somewhat influential in the selection process. However, the thought that lowering fees will attract flocks of new patients appears quite unrealistic.

The last two selection factors to be considered both proved to be of little significance. The number of respondents who said the most important reason for selecting their dentists was because they had met them socially or had heard of them because they were active in the community, amounted to only 2.9 per cent. This result

downplays the notion that being a member of the Kiwanis, Rotary, Country or Community Club or any other organization for that matter, is a reliable means of attracting patients. Consequently, joining such organizations with hopes of business prospects may be, for the most part, a waste of time. The survey also proved advertising in the phonebook and newspaper to be of minimal value. The number of respondents who said the most important reason for choosing their dentist was because they saw the name in the yellow pages, directory or newspaper totalled only 1.5 per cent. This result has obvious marketing implications. Plainly, spending large amounts of money on this type of advertising would not appear to be cost-effective.

The selection factors listed by respondents under the category "other reasons", were not given in great enough number to warrant lengthy discussion, but some were quite interesting. One respondent said that the main reason he chose his dentist was because the dentist used nitrous oxide as anesthetic. Another individual said she chose her dentist because he was handsome. These selection factors among many others are curiously interesting, but still insignificant statistically speaking.

There are two types of dental patients, those who visit a dentist on a regular basis, and those who visit a dentist on an infrequent basis. A knowledge of which selection factors are influential in each case, would definitely be of some value to the dentist. Obviously, if dentists had a choice between two new patients, they would select the one who would attend regularly. By determining possible differences in how these two groups select a dentist, a marketing strategy could be devised that would target the more desirable group of patients. This study showed that infrequent visiting patients select their dentists for much the

TABLE 3
INFLUENCE OF SELECTION FACTORS ON PATIENTS WHO SEE A DENTIST ON A REGULAR BASIS, AND THOSE WHO SEE A DENTIST ON AN INFREQUENT BASIS.

	TOTAL INFLUENCE		MOST IMPORTANT REASON		TOTAL INFLUENCE		MOST IMPORTANT REASON	
		%		%		%		%
	REGULAR PATIENTS				INFREQUENT PATIENTS			
R ₁	179	16.0	41	11.7	49	14.2	10	8.1
R ₂	245	21.9	135	38.7	91	26.3	51	41.1
R ₃	82	7.3	33	9.5	16	4.6	9	7.3
R ₄	120	10.7	24	6.9	40	11.6	7	5.6
R ₅	45	4.0	12	3.4	10	2.9	3	2.4
R ₆	31	2.8	5	1.4	9	2.6	3	2.4
R ₇	239	21.4	79	22.6	73	21.0	30	24.2
R ₈	177	15.8	20	5.7	60	17.3	11	8.9
TOTAL:	1118	100.0	349	100.0	346	100.0	124	100.0

TABLE 4
DID YOU SELECT YOUR DENTIST IN. . . .

An emergency situation	83	15.9
A non-emergency check-up situation	438	84.1
TOTAL	521	100.0

same reason as illustrated by the data. The degree of influence of the selection factors between the two groups was strikingly similar. (Table 3).

A similar type of comparison was made of the patients who choose a dentist in an emergency situation and those who choose one in a non-emergency situation. The result once again showed no notable difference between the two groups. Apparently, no matter the circumstances, these two groups of patients select a dentist for the same reasons. However, caution must be taken in this instance because of the small sample size of respondents who selected their dentist in an emergency situation. (Tables 4 and 5).

The last comparison to be studied was how the influence of the selection factors may change as income bracket is varied. This is another feature which has potential marketing implications. For example, for one income bracket, certain selection features may be of greater importance than others. This information would be useful when opening a practice in an area where a particular economic class predominates. Knowing which selection factors were most influential in the minds of this group of people, an effective and specifically oriented marketing approach could be instituted. As well, a dentist who is already located in such an area could increase the size of the practice by accentuating the appropriate aspects of the marketing scheme and perhaps eliminate those features which appear to have little use. However, the survey revealed that economic level has little bearing in determining which selection factors are most influential. Therefore, people of different income levels select their dentist for virtually the same reasons, as evidenced by the data (Table 6).

CONCLUSION

With the field of dentistry becoming more and more competitive each year, the need for an understanding of the marketing side of the profession becomes increasingly important. This study has shown that recommendations by friends and relatives and a convenient location are the two factors which are most influential in a patient's choice of their dentist. Evening and weekend hours also appear to be important. Not having to wait too long for an appointment and recommendation by another professional were also shown to be notable selection factors. The advertising pitch at the Country Club and in the phonebooks and newspapers, once thought to be necessary, appears to be of minimal value. Results of the study also appear to be independent of age, sex, income level, emergency/non-emergency and regular/infrequent attendance.

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TABLE 5

SELECTION FACTORS OF EMERGENCY PATIENTS AND NON-EMERGENCY PATIENTS

	EMERGENCY			NON-EMERGENCY		
	TOTAL INFLUENCE	%	MOST IMPORTANT REASON	TOTAL INFLUENCE	%	MOST IMPORTANT REASON
R ₁	34	14.7	8	194	15.7	43
R ₂	48	20.7	25	228	23.4	161
R ₃	14	6.0	6	84	6.8	36
R ₄	26	11.2	4	132	10.7	27
R ₅	5	2.2	0	50	4.1	15
R ₆	14	6.0	5	26	2.1	3
R ₇	53	22.8	20	269	21.8	89
R ₈	38	16.4	9	199	16.2	22
TOTAL:	232	100.0	77	1232	100.0	396

TABLE 6

ANNUAL INCOME CORRELATIONS

	LOWER INCOME BRACKETS					
	LESS THAN \$15,000			\$15,000 - \$25,000		
	TOTAL INFLUENCE	%	MOST IMPORTANT REASON	TOTAL INFLUENCE	%	MOST IMPORTANT REASON
R ₁	26	14.9	3	54	15.8	9
R ₂	42	24.0	26	83	24.3	48
R ₃	12	6.9	7	20	5.9	7
R ₄	12	6.9	3	43	12.6	13
R ₅	7	4.0	3	12	3.5	5
R ₆	2	1.1	1	9	2.6	1
R ₇	40	22.8	15	65	19.1	14
R ₈	33	18.9	2	55	16.1	10
TOTAL:	175	100.0	60	341	100.0	107

	HIGHER INCOME BRACKETS					
	\$25,000 - \$35,000			MORE THAN \$35,000		
	(T.I.)	%	(M.I.R.)	(T.I.)	%	(M.I.R.)
R ₁	51	17.3	11	49	16.6	15
R ₂	70	17.3	44	67	22.6	33
R ₃	31	10.5	14	16	5.4	9
R ₄	35	11.9	9	30	10.1	3
R ₅	13	4.4	1	8	2.7	3
R ₆	9	3.1	1	9	3.0	2
R ₇	60	20.3	16	69	23.3	25
R ₈	56	19.0	9	48	16.2	6
TOTAL:	295	100.0	75	296	100.0	96

*NOTE: Categories less than \$10,000 and \$10,000 - \$15,000 from survey were added together.

Clinical Features

A MULTI- DISCIPLINARY APPROACH TO PERIODONTICS

Edward Glick, B.Sc., DDS

This is the second in a series of clinical articles which the Journal presents to its readers. This article originated from a table clinic presented at the Ontario Dental Association meeting in May 1985.

Abstract:

The disciplines of orthodontics, endodontics, and fixed and removable prosthodontics are related to the periodontium. Cases illustrating these relationships are reviewed.

Introduction:

Preparation of the mouth for restoration includes all aspects of periodontal therapy. This entails control of inflammation, as well as those procedures that alter tooth position, crown length, and ridge form. Restoration of periodontal health is the prime prerequisite to all other dental therapy.

Crown Lengthening

Crown lengthening procedures are one of the most underutilized forms of periodontal therapy that can be employed to facilitate restorative dentistry. For a healthy situation to ensue following fracture or subgingival caries, the cervical margin of the

restoration must be at least 2mm coronal to the bone crest.¹ This allows 1mm for connective tissue attachment and 1mm for a new epithelial attachment (junctional epithelium).^{2,3} If the crown impinges on these 2mm, ultimate and unpredictable bone loss and loss of attachment will occur.

This "biologic width" can be attained by employing an internal bevel split thickness flap. Following adequate osteotomy and osteoplasty, the existing gingiva can be retained and repositioned so that mucogingival problems are not created.

Figure 1 illustrates a fractured maxillary first bicuspid from the palatal aspect. In **Figure 2**, the labial aspect is shown whereby a flap has been elevated and osteotomy performed. **Figure 3** shows the post-operative result. Sufficient tooth structure is now present to permit placement of a post, core and crown. An adequate band of attached gingiva is also present.

Mucogingival Surgery

A detailed evaluation of the mucogingival status of a patient is very important prior to fixed and removable prosthetics and orthodontics. Although our concepts may have changed with respect to the adequacy

of attached gingiva⁴, it should still be evaluated. The decision can then be made whether to intervene surgically or to monitor the situation.

Figure 4 illustrates a situation where minimal attached gingiva was present. This 50 year old female had worn a mandibular RPD for five years. Subsequent irritation and recession has occurred on teeth #33 and #43 which were clasped. Free gingival grafts were performed on these abutments, with the result being shown in **Figures 5** and **6**. Ultimately fixed bridgework was placed extending from 33 to 43.

Orthodontics

There is an abundance of information in the literature, on the effects of orthodontic tooth movement on the periodontium. The effects of rampant recession can be devastating as a result of the mechanics involved combined with less than adequate oral hygiene.⁵ Although our techniques have vastly improved in attaining root coverage on broad areas of recession, it is still not predictable. It is therefore important to investigate areas of suspected minimal attached gingiva, thin bony plate and dehiscence prior to orthodontic intervention.⁶

Periodontic-Endodontic Lesions

In the last decade, combined periodontic-endodontic techniques have been used to save many teeth previously considered to be hopeless. **Figure 7** illustrates a case which presented to a hospital emergency department for treatment of an acute abscess on tooth #43. The problem was diagnosed as being purely pulpal in origin, and as such was treated with conventional endodontics. The patient then presented six months later with the same complaint. Examination revealed that there were definite periodontal and occlusal components involved in the etiology. An occlusal adjustment was performed and the tooth was splinted due to the marked mobility. The area was then treated with flap curettage. On evaluation one year later the splint was removed. The tooth had stabilized appreciably and marked bone fill had occurred. (**Figure 8**) This case exemplifies a "true" combined lesion.⁷ The initial therapy failed because all of the initiating factors were not identified and treated.

Summary

There is a close interdependence between restorative dentistry, orthodontics, endodontics and the health of the periodontal tissues. This article presents a brief overview of these relationships, using case histories.

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DCNA = *Dental Clinics of North America*



Figure 1



Figure 2

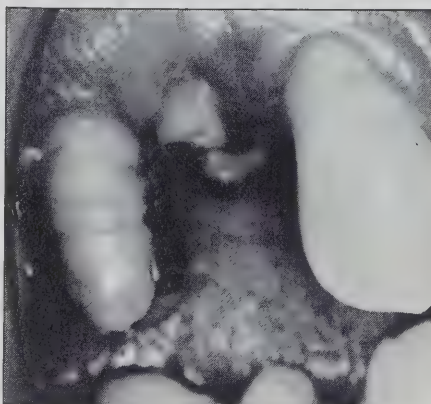


Figure 3

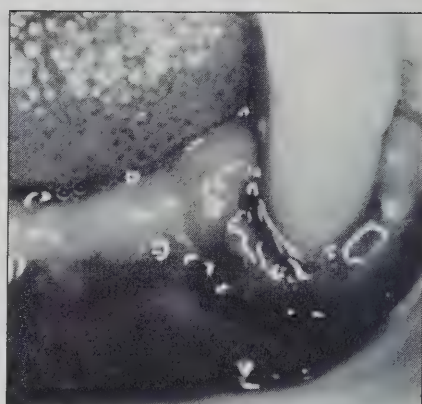


Figure 4



Figure 5

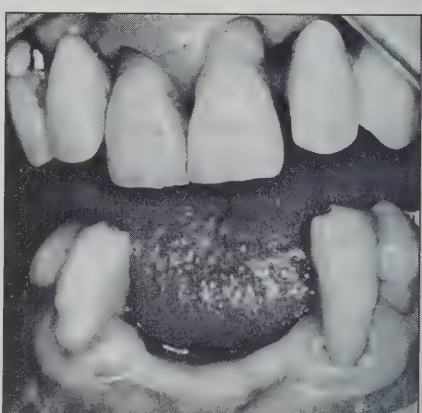


Figure 6

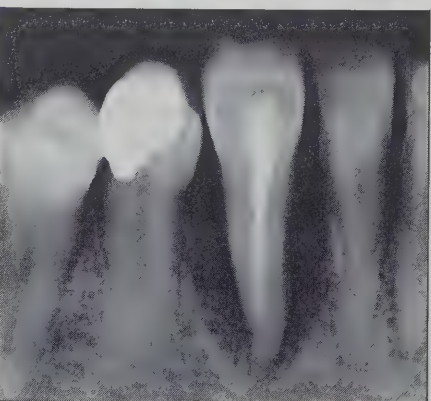


Figure 7

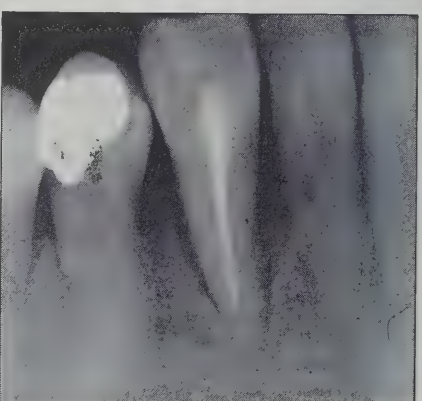


Figure 8

Specialty Features

MARKETING MANAGEMENT

FOR DENTAL STUDENTS

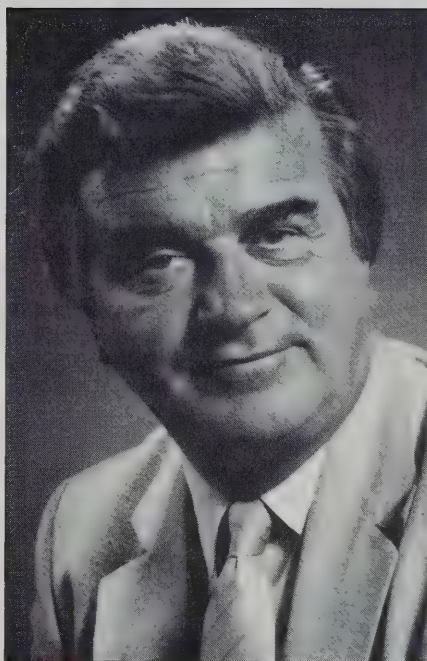
AN EXPERIENCE

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University of Alberta

Back in May, 1983, I received a telephone call from Roger Ellis, Chairman of the University of Alberta's Department of Dental Health Care, asking me to drop over for a cup of coffee. One should always be alert to the price that will ultimately have to be paid for a free cup of coffee provided by an academic because the net result of this meeting was that I ended up volunteering to do five sessions on Marketing Principles for the Dental Practitioner: sessions which would be an integral part of Dentistry 492 on Practice Management.

Historically, Dentistry 492 has covered a variety of business related topics — taxation, accounting principles, preparation of office manuals, *et al*, but had not touched on the topic of marketing *per se*. At the time, 1984 seemed to be a long way off and so I blithely accepted the assignment, working on the academic principle that "even if I don't know anything, I'll look it up in a book!"

Naturally, when it finally came time to put the lecture material together, there was a) relatively little available on Marketing the Dental Practice and b) what was available was largely American and, therefore, quite different from the Canadian scene. How-



ever, once having accepted the assignment (and as the days of my presentation rapidly grew closer) something had to be done. That something culminated in five sessions which would cover the following:

An overview of Marketing
The Marketing Plan
Measuring the Plan
Promoting the Practice

A review of Marketing Procedures and Plans

As well, students were given this assignment:

"Develop a marketing plan for an assumed practice. This can be in the form of a single person or as a group practice. You may utilize a "store-front" concept or a more traditional outlet and you may also assume a specialized practice, e.g. periodontics. You should utilize the concept of the 4 "P's" (Price, Product, Promotion and Place) in establishing your marketing plan, i.e., demographics on potential market(s), how to reach the market, cost factors, etc.

"Please feel free to utilize any geographical area. For example, if you plan on locating in Red Deer, you should use data from that area."

N.B. Assignments to be done by three-person teams.

Needless to say, things seldom work out as planned and course content did tend to vary considerably from my initial expectations. The emphasis, the type of information, content, all varied with student interest as the sessions developed. How-

ever, a very brief overview of the material presented (with some observations) follows:

Session I — An Overview of Marketing

Probably the major difficulty for individuals in professions which, historically, have not been marketing oriented in any formal sense is the difficulty of grasping the core concept of marketing which, put simply, is a consumer orientation. As an aside, it should also be noted that many so-called marketing organizations are not particularly consumer oriented and, therefore, can be more readily criticized.

However, what was interesting in this first session was the class definition of marketing. Working in small groups, the students were asked to provide a definition and, without exception, they put particular emphasis on the promotional and advertising aspects — aspects which are not really applicable given the ethical aspects inherent in the Dental Code. As it happened, Roger Ellis had brought along a newspaper advertisement from an American city wherein orthodontic treatment was advertised as "A \$1,999 special with only \$59 down!" The advertisement also went on to state that, "Patients between the ages of 6 and 12 registering for treatment would receive a 10 speed bike."

Recognizing that this type of promotional activity would be impossible in Canada (at least at this point in time!) we then spent some time in trying to arrive at marketing concepts which were meaningful. Basic to these concepts were issues such as the need

for consumer/client/patient analysis. How to derive the number of potential patients? What methods of reaching these could dentists utilize? What is the role of segmentation or specialization amongst professionals?

A crucial dimension of marketing, in my opinion, is the concept of warranty or a guarantee which, in the case of professionals, presupposes some form of follow-up. Obviously, it would be impossible for the dental practitioner to promise a complete cure or what-have-you. But, I would suggest it is crucially important to follow-up by phone or mail in specific situations. As a personal example, I recall a periodontist phoning me at home, in the evening, after I had had relatively major work done that day. Needless to say that same periodontist is still my periodontist.

Session II — The Marketing Plan

In this class, we reviewed the concept of the 4 P's *PRICE, PRODUCT, PROMOTION and PLACE* — as they relate to the consumer/customer/client. As an aside, it should be noted that semantics were a bit of a problem since the class had difficulty in thinking of their patients as clients or customers. The difficulty being compounded by virtue of the need to further differentiate between customers and consumers.

The major issue that was stressed was the concept of 'environments' within which dentists (along with everyone else) must operate. That is, a changing economic environment obviously has an impact; consumer or patient desires change; changing role of the government has an appreciable

effect on us all (Exhibit I). Most important, emphasis was placed on the concept of planning and analysis.

To illustrate: a dentist planning on an average net income of several hundreds of thousands of dollars should not be thinking of setting up practice in the Boyle Street area — which is a low income area of the city. As well, a movie, "I Don't Care What You Call It: Marketing or Selling" was shown. While emphasising traditional consumer goods (in this case ice cream), the movie stresses the need to differentiate between a marketing approach as compared to a selling approach.

Session III — Measuring the Plan

Students were asked to briefly define the environments within which they saw themselves practising. A number of different aspects were noted — government, the economy, patient knowledge and lawsuits! The major thrust was then to ask them to consider these environments from the viewpoint of being controllable or uncontrollable in a managerial sense. In other words, the hope was that students would begin to think in terms of what they could realistically expect to do in today's world.

As well, they were provided with a schematic (Exhibit II) on marketing planning which stresses the need for a continuing review process of the marketing process. This led to additional discussion on the 4 P's with some indications of how these variables could be used by the dental practitioner.

Again, recognizing that these marketing strategies are subject to considerable con-

EXHIBIT I

THE CONCEPT OF THE 4 P's

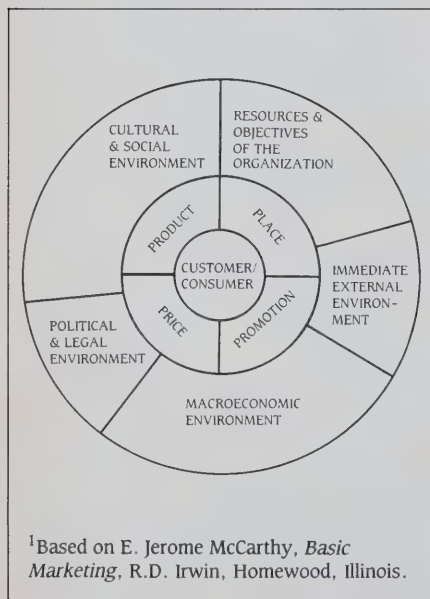
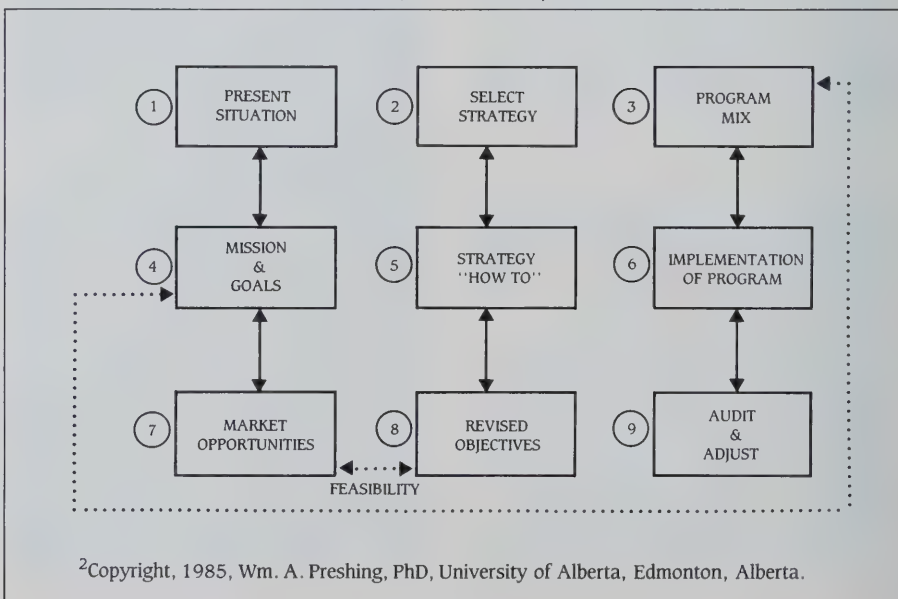


EXHIBIT II

MARKETING PLANNING PROCESS (SCHEMATIC)



straints given the ethical nature of the proposition, it was suggested that certain activities could be considered. For example, as a *promotional* strategy, a much higher level of staff training for receptionists and other front line personnel is relatively easy to provide at a comparatively low cost. An example of a different *place* is the use of a mobile clinic for the homebound as found in Denver.

Session IV — Promoting the Practice

As noted above, the question of promoting the dental practice is difficult given the restrictions of the profession. However, extensive discussion did emphasize the need for a high degree of activity in the community in order for the practicing dentist to become better known. Also stressed was the need for looking at activities of this nature from a cost viewpoint.

That is, community activity and involvement obviously presupposes the commitment of time to efforts of this nature. What is required, therefore, is the need to realistically analyse these types of time commitment against the potential return. As well, stress was placed on the need to try and develop a comprehensive method of patient follow-up since this form of activity is probably the most effective method of promotion.

Ironically, just at the time of this session, the Alberta Dental Association had recently announced a 5.2% fee increase in 1984. To quote an editorial from the January 17, 1984 Edmonton Journal, "Oil and gas explorations may be on the skids in Alberta, but at least some drilling remains strong — and very lucrative. . . . While many Albertans are struggling with financial hardship, dentists seem preoccupied with extracting whatever price they can for extractions."

Session V — A Review of Marketing Procedure and Plans.

One of the major functions in discussing the concept of marketing for professions is the need to think in terms of market segments and constituencies. Specializing, for example, in dealing within older segments of the population presupposes certain types of behavioural patterns on the part of the dentist.

Naturally, it must be recognized that these are limited to specialization (whether by practice or by age groups) given the realities of the marketplace. That is, unless a dental practitioner is in a major centre, the practice and the population are normally such that there is a comparatively wide range of services and patients.

Another marketing aspect which is important for the dental practitioner, is the con-

cept of constituencies. These are groups that dentists should have a close professional relationship with and include such groups as physicians, dental suppliers, dieticians, etc. A crucial dimension of marketing for professionals is the need, as noted above, to be aware of the dynamics of the marketplace.

These include basics such as the number of people in a given area along with demographic characteristics — age structure of the population, economic factors in the area, the number of dentists and, of increasing importance, the growth of para professionals such as independent hygienists. As Alvin Tofler points out in *The Third Wave*, the professions today do not enjoy the respect that they had even a few years ago. Therefore, it is crucially important for professionals (including dentists) to become more aware of the environment within which they must now operate.

Some Conclusions

As an addendum, it should be noted that, another fourth year class was conducted in the fall of 1984. The basic material was again given to the class with a comparable assignment. Now, having had the opportunity of meeting with two groups of senior dental students some biases have been reinforced. These include the following:

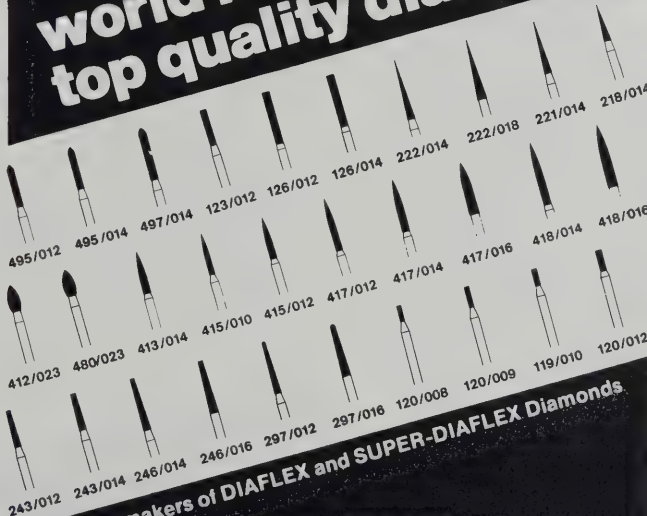
1. A marketing orientation for Dentistry (plus many other professions) has become far more important given the environmental factors of increased competition, new forms of competition, today's economic realities, etc.
2. Dental practitioners will have to become aware of promotional requirements — limited as they presently are under the various Dental Acts. An increased sensitivity to follow-up patterns with patients and the need to broaden dental knowledge among "customers" is paramount.
3. Inevitably, the many rules and regulations governing promotional activities will have to be drastically modified in the not too distant future. This will be extremely difficult for traditionalists to accept, but I feel it will become reality.
4. There is a growing need for the dental (and other) professions to be attuned to the changing dynamics in our society. It is extremely easy to fall into the trap of straight extrapolation, i.e., what is — will continue. Unfortunately, with the rapid changes in our society the professions can no longer afford to sit back and assume that people will come to them.

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Specialty Features

ANESTHESIA AND SEDATION IN THE DENTAL OFFICE

Anesthesia and Sedation in the Dental Office

The following statement was issued recently by the National Institutes of Health in Bethesda, Maryland, on anesthesia and sedation, and its use in the dental office. The statement was issued by an NIH consensus panel, a panel of experts that considered scientific evidence presented at a consensus development conference at the NIH. National Institutes of Health consensus conferences bring together researchers, practising professionals, representatives of public interest groups, consumers and others to carry out scientific assessments of drugs, devices and procedures in an effort to evaluate their safety and effectiveness. For the interest of Journal readers, the conclusions and recommendations from the NIH Consensus Development Conference on Anesthesia and Sedation in the Dental Office is reprinted here.

Anesthésie et sédation au cabinet

Dernièrement, le National Institutes of Health de Bethesda, dans le Maryland, a émis une déclaration touchant l'anesthésie et la sédation au cabinet. La déclaration a été émise par un groupe d'experts qui se sont penchés sur des preuves scientifiques présentées lors d'une conférence tenue par le NIH pour en arriver à un consensus sur la question. Le NIH organise des conférences de ce genre réunissant des chercheurs, des praticiens, des représentants d'organismes publics pour les consommateurs et d'autres personnes afin d'évaluer l'efficacité et la sûreté des drogues, procédures et appareils qui ont fait l'objet d'études scientifiques. Dans l'intérêt des lecteurs, la rédaction du Journal reproduit ici les conclusions et les recommandations émanant de la Conférence tenue par le NIH pour atteindre un consensus sur l'anesthésie et la sédation au cabinet.

dure; the age and physical and psychological status of the patient; the level of fear and anxiety; and the patient's previous response to pain control procedures.

The use of sedative and anesthetic techniques in the dental office represents a unique situation when compared with their use in the hospital environment. Dental patients are ambulatory and generally in good health, the procedures are usually shorter, the depth of anesthesia or level of sedation is often less, and it is the fear and apprehension of the patient rather than the nature of the procedure that frequently dictates the use of these techniques. These differences often are not clearly understood. As a result, the use of sedation and anesthesia in the dental office has sometimes been unduly criticized.

Despite the record of safety that has been established by the dental profession, problems have occurred and questions have been raised regarding the training necessary for the safe and effective use of sedation and general anesthesia, the indications and contraindications for the use of these techniques in different age groups, the appropriate agents to be used to provide the greatest margin of safety, and the proper management and monitoring of the patient. To resolve some of these questions, the National Institute of Dental Research of the National Institutes of Health (NIH) along with the Food and Drug Administration and the NIH Office of Medical Applications of Research convened a Consensus Development Conference on Anesthesia and Sedation in the Dental Office on April 22-24, 1985.

Introduction

Pain is a major factor that brings patients to the dental office, while fear and anxiety about pain are common reasons patients fail to seek dental care. The magnitude of this public health problem is indicated by the fact that there are 35 million Americans who avoid dental treatment until forced into the office with a toothache. The control of pain

and anxiety is therefore an essential part of dental practice.

To accomplish this objective, various techniques are used, including psychological approaches, local anesthetics, and various types and combinations of sedative and general anesthetic agents. The choice of the most appropriate modality for a particular situation is based on the training, knowledge, and experience of the dentist; the nature, severity, and duration of the proce-

After listening to a series of presentations by experts in the relevant basic and clinical science areas, a consensus panel composed of individuals knowledgeable in medical and dental anesthesiology, oral and maxillofacial surgery, pediatric dentistry, general dentistry, dental education, pharmacology, behavioral science, biostatistics, epidemiology, and the public interest considered all of the material presented and agreed on answers to the following questions:

- What are the differences between general anesthesia, deep sedation, and conscious sedation?
- What are the indications and contraindications for the use of general anesthesia and sedation in children, adults, and the geriatric population?
- What are the appropriate agents and techniques for general anesthesia and sedation?
- What are the risks associated with the use of general anesthesia and sedation?
- What facilities, equipment, personnel, and training are needed for managing and monitoring patients?
- What are the directions for future research?

1. What Are the Differences Between General Anesthesia, Deep Sedation, and Conscious Sedation?

Drugs that depress the central nervous system produce a progressive dose-related continuum of effects. Small doses produce light sedation. In this state, the patient remains conscious, with some alteration of mood, relief of anxiety, drowsiness, and sometimes analgesia. As the dose is increased, or as other drugs are added, greater central nervous system depression occurs, resulting in deepening of sedation and sleep from which the patient can be aroused. Finally, when consciousness is lost and the patient cannot be aroused, light general anesthesia begins. General anesthesia can be deepened by additional drug administration. The amount of training, experience, and skill needed to safely produce and manage central nervous system depression increases with the degree of depression involved.

The degree and duration of central nervous system depression required varies with the procedure being performed and with the special requirements of the patient; these may be altered during the procedure as operative requirements change. Only a brief period of central nervous system depression may be necessary to permit the performance of procedures such as administration of a local anesthetic or the uncomplicated extraction of a tooth.

Pharmacologic approaches used for relief of pain and anxiety in dentistry, in addition to local anesthesia, include sedation and general anesthesia. These are defined as follows:

- *Sedation* describes a depressed level of consciousness, which may vary from light to deep. At light levels, termed *conscious sedation*, the patient retains the ability present before sedation to independently maintain an airway and respond appropriately to verbal command. The patient may have amnesia, and protective reflexes are normal or minimally altered. In *deep sedation*, some depression of protective reflexes occurs, and although more difficult, it is still possible to arouse the patient.
- *General anesthesia* describes a controlled state of unconsciousness, accompanied by partial or complete loss of protective reflexes, including the inability to independently maintain an airway or respond purposefully to verbal command.

When sedative or anesthetic drugs are used, the exact technique can be further described by specifying route of administration, agents used, and their dosage.

2. What Are the Indications and Contraindications for the Use of General Anesthesia and Sedation in Children, Adults, and the Geriatric Population?

The selection of a particular drug or drugs to allay apprehension, anxiety, fear, and pain ultimately rests on the clinical judgment of the dentist. A comprehensive medical history is essential in making this decision. Laboratory tests should be selected on the basis of necessity, specificity, sensitivity, and cost. Consideration of the patient's preference and risk/benefit ratios should influence the method of treatment. Sedation and general anesthesia should only be used when there are adequate facilities and appropriately trained personnel.

The decision to use a particular technique in a certain age group is based on the following:

Adults

For the anxious adult patient, sedation provides a calming effect, and the addition of local anesthesia provides relief of pain or discomfort. Sedation may also be indicated to minimize stress in the presence of certain medical conditions (e.g., hypertension) and for complex procedures requiring an extended period of operating time. The chief contraindication to the use of sedative techniques is the presence of a medical condition that significantly increases the risk to the patient.

General anesthesia for healthy (ASA class I or II) patients may be indicated when there is greater complexity of the procedure, higher levels of preoperative anxiety, or a greater need for a pain-free operative period. A contraindication to local anesthesia might also require that a general anesthetic be administered.

General anesthesia in an office setting may be contraindicated in patients who are not healthy (ASA class III or IV). These individuals demand special consideration, which may require treatment in the hospital or a similar setting.

Geriatric Patients

The indications for use of sedation or general anesthesia for the geriatric patient are basically the same as for other adults. However, advancing age brings marked changes in pharmacodynamics and pharmacokinetics as well as an increase in medical problems. Chronic use of multiple prescription and over-the-counter drugs is frequently encountered, thus increasing the risk of adverse drug interactions. Contraindications to the use of sedation or general anesthesia for older patients are based almost entirely on the nature and severity of such risk factors.

Pediatric Patients

The dentist's need for a cooperative and quiescent patient for the rendering of high-quality care is a prime indication for the use of sedation or general anesthesia in some children. These modalities tend to reduce fear and anxiety and assist the uncooperative child to accept and continue to receive regular dental care.

Pediatric patients with extensive and complicated treatment needs, with acute pain and/or trauma, as well as those who are physically disabled or mentally retarded, may require sedation or general anesthesia. At times, the very young child (up to 3 years of age) and those with limited or compromised ability to comprehend and communicate also are candidates for such procedures.

Additionally, there may be an indication for sedation or general anesthesia when the child would be better served by increasing the length of the appointment time and thus reducing the number of visits to accomplish the required treatment.

Although the presence of a severe, compromising medical condition is generally a contraindication to sedation, some patients in this category may benefit from its use. These children should be managed in close cooperation with the physician involved in their medical care.

While not necessarily contraindicated in the dental office, general anesthesia in the very young child often is best managed in

the hospital or a similar setting, especially for lengthy restorative procedures. In all children, severe, compromising medical conditions contraindicate general anesthesia in the dental office.

3. What Are the Appropriate Agents and Techniques for General Anesthesia and Sedation?

The drug groups used for sedation or general anesthesia in the dental office are essentially the same as those used in the hospital setting. These groups include benzodiazepines (e.g., diazepam), barbiturates (e.g., pentobarbital), alcohols (e.g., chloral hydrate), the opioid analgesics (e.g., meperidine, fentanyl), antihistamines (e.g., diphenhydramine, hydroxyzine), phenothiazines (e.g., promethazine), and nitrous oxide/oxygen.

Drugs that in low dosage produce sedation, but are generally recognized as general anesthetics, are the halogenated inhalation agents (e.g., enflurane), ultrashort-acting barbiturates (e.g., thiopental, methohexital), and the dissociative agent ketamine. Accessory agents are the antimuscarinics (e.g., atropine, glycopyrrolate), which are useful in sedation and general anesthesia, and the neuromuscular blocking agents (e.g., curare, succinylcholine), which are useful only in general anesthesia.

The routes of drug administration used in the dental office include oral, inhalation, submucosal, intramuscular, intravenous, and rectal. The selection of the route of administration and agents to be used depends on the dentist's expertise and experience and the ability to optimally accomplish the treatment plan. The dentist should utilize psychological approaches as much as possible to minimize drug dosage and thus ensure the safest levels of pharmacologic central nervous system depression. Careful attention must be given to the very young, the elderly, and the special patient. These considerations will ensure that management of each patient will be highly individualized.

4. What Are the Risks Associated with the Use of General Anesthesia and Sedation?

Reliable national estimates of mortality or morbidity associated with the use of general anesthesia and sedation in the dental office are not available for the United States. The most valid data, derived from a population-based study in Great Britain, indicate a mortality rate of 1:250,000 general anesthetic administrations for the period 1970-1979. Two large surveys of oral and maxillofacial surgeons in the United States suggest lower

estimates of risk, ranging from 1:350,000 to 1:860,000; however, the validity of these latter estimates cannot be evaluated because of questions about the survey methods, completeness of data collection, and the degree to which the findings can be generalized.

The British study indicates that treatment with local anesthesia with or without conscious sedation carries less risk than treatment with deep sedation or general anesthesia. Risks may increase in the medically compromised, the elderly, and the very young.

Data concerning morbidity are extremely limited and do not permit the calculation of rates. A general impression suggests that an increased morbidity and mortality are associated with greater duration of anesthesia and complexity of the dental procedure.

Confounding effects of medication being taken by the patient may increase the risks associated with sedation and general anesthesia. A consultation with the patient's physician may be advisable prior to the administration of sedative or general anesthetic agents.

Another important consideration in risk assessment relates to the choice and dosage of specific sedative and anesthetic agents. The use of any effective drug is almost always associated with some undesirable effects. For example, opioid drugs in therapeutic dosage cause respiratory depression and may cause airway obstruction. The use of central nervous system depressants for conscious sedation, especially when used in combinations, requires careful titration and close monitoring to avoid unanticipated deep sedation or general anesthesia.

Special caution is advised when considering anesthetic care for the patient who may develop malignant hyperthermia. A high index of suspicion based on the patient's family history indicates the need for further evaluation and management in the hospital.

For the medically compromised patient, the benefits of using sedation to relieve stress sometimes clearly outweigh the risk of aggravating the medical condition.

5. What Facilities, Equipment, Personnel, and Training Are Needed for Managing and Monitoring Patients?

Facilities and Equipment

The effectiveness of all techniques used for control of pain and anxiety is significantly enhanced by a quiet environment. The facility should be properly equipped with suction and monitoring equipment, emergency drugs, and equipment capable of delivering oxygen under positive pressure. A protocol for management of emergencies should be developed, and

emergency drills should be carried out and documented.

Gas delivery machines should have an oxygen fail-safe system, and should be checked and calibrated periodically. All emergency equipment and drugs should be maintained on a scheduled basis. An adequate, supervised recovery space should be available.

Monitoring

For conscious sedation, the chart should contain documentation that heart rate, blood pressure, respiratory rate, and responsiveness of the patient were checked at specific intervals, including the recovery period. In addition, for deep sedation or general anesthesia, use of the precordial stethoscope for continuous monitoring of cardiac function and respiratory rate is a minimal requirement; an intravenous line, electrocardiographic monitoring or pulse oximetry, and temperature monitoring in children are desirable. Postoperative instructions and precautions should be discussed at the time that the preoperative consent is obtained and should be reinforced in printed form at the time of discharge.

Personnel

For conscious sedation, the practitioner responsible for treatment of the patient and/or administration of the drugs must be appropriately trained in the use of this modality. The minimum number of people involved should be two, i.e., the dentist or other licensed professional and an assistant trained to monitor appropriate physiologic parameters.

For deep sedation or general anesthesia, at least three individuals, each appropriately trained, are required. One is the operating dentist, who directs the deep sedation or general anesthesia. The second is a person whose responsibilities are observation and monitoring of the patient; if this person is an appropriately trained professional, he or she may direct the deep sedation or general anesthesia. The third person assists the operating dentist.

6. What Are the Directions for Future Research?

There is a critical need for a comprehensive approach to research in dental anesthesiology. Major areas that should be explored include epidemiology, clinical trials of drug safety and efficacy, behavioral approaches to pain and anxiety control, pharmacokinetics, pharmacodynamics, and drug interactions.

Comprehensive data on the indications for dental anesthesia, the most efficacious drug regimens, and the morbidity and mortality rates will permit a more effective use of available sedative and anesthetic modalities. In addition, definitive clinical research

in pediatric, adult, and geriatric populations is essential.

The panel specifically recommends research in the following areas:

- Epidemiology

- Data on the number and type of sedative and anesthetic procedures by geographic region and type of practice.

- Information on specific drugs and dosages currently being used in each type of practice for conscious sedation, deep sedation, and general anesthesia.

- Morbidity and mortality rates by demographic characteristics, preoperative status, type of sedation or anesthesia, and specific drugs. There is a need for development of statistically sound models for such studies. State, regional, and national data would be useful.

- Drug Efficacy Studies

- There is a need for well-controlled, randomized, double-blind safety and efficacy studies. There should be continued development of methods to quantitate onset, peak effects, duration of effects, and recovery from sedation and anesthesia. Oral, parenteral, and inhalation regimens should be evaluated.

- Studies should address the risk/benefit ratio of single and combination drug regimens. Emphasis should be on the dose-response effects of each regimen and on the

contribution of each drug in combination therapy.

- Studies should include the pediatric, adult, and geriatric populations, with special emphasis on the risks unique to each group.

- Monitoring of Patients

- Studies are needed to determine the type and amount of monitoring best suited for the various sedation and anesthesia regimens.

These studies should consider the cost-effectiveness of monitoring equipment and the necessary criteria for early intervention for drug toxicity.

- Better methods are needed for early detection of malignant hyperthermia to permit more rapid therapeutic intervention for this sudden and potentially fatal complication.

- Behavioral and Other Nonpharmacologic Approaches

- Behavioral approaches and other techniques used alone or in conjunction with pharmacologic pain control need to be systematically studied.

- Barriers to the use of psychologic approaches need to be identified and remedial programs developed.

- Environmental Risk Assessment

- Special studies should address the hazards of anesthetic agents to the professional personnel and office staff. This is particularly important with gaseous or volatile anesthetics.

- New Drugs

- There should be continuing efforts to develop new and better drugs for sedation and general anesthesia.

- Specific reversal agents for each class of drugs should also be sought. Drugs such as the opioid antagonists and soon-to-be-available benzodiazepine antagonists should be evaluated for use in dentistry as they are being developed.

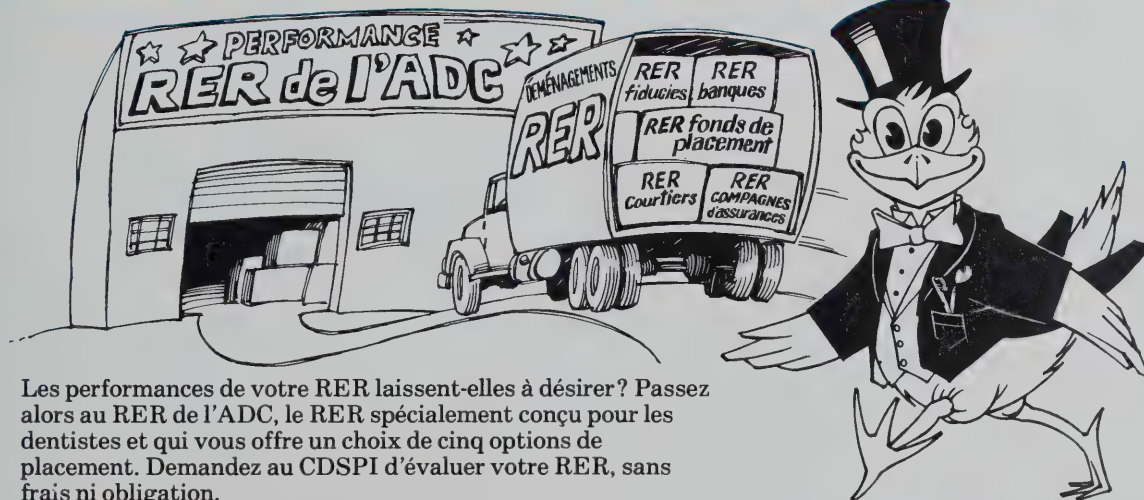
- Resources

- It is particularly important that there be a critical mass of trained clinical and basic science researchers. It is necessary to assess whether there are adequate personnel to implement comprehensive teaching and research programs.

Conclusions

The use of all effective drugs carries some degree of risk, however small. Available evidence suggests that use of sedative and anesthetic drugs in the dental office by appropriately trained professionals has a remarkable record of safety. However, even this record can be improved as scientific knowledge of dental anxiety and pain control is expanded, as strong training programs at all levels of professional education are developed, and as appropriate guidelines governing requirements for dental office personnel, facilities, and equipment are promulgated and adopted.

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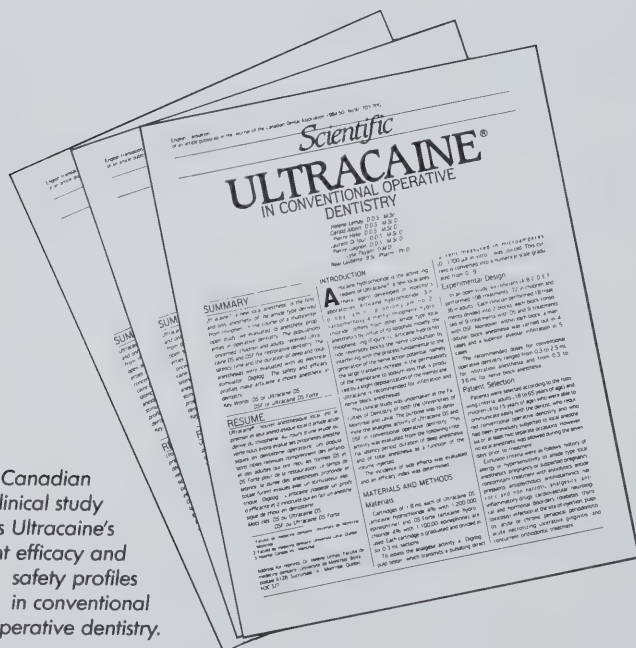
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APPLICATIONS OF OSSEO- INTEGRATED IMPLANTS A PRELIMINARY REPORT ON 35 CASES

J.M. Symington, BDS, MSc, PhD, FDSRCS(Eng)

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P.A. Watson, DDS, MScD

A. Brown, DDS, FRCD(C)

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Toronto, Ontario

SUMMARY

This paper presents a preliminary report on the use of osseointegrated dental implants in 35 patients. The design of the implant used throughout the study was that presented by Branemark and his co-workers. The initial implant loss for complete lower, complete upper, partially edentulous and grafted cases is presented. The overall implant loss in this study was 16.7 per cent.

SOMMAIRE

Voici un rapport préliminaire sur des implants dentaires fichés dans les os qu'on a réalisés sur 35 patients. Pendant toute l'étude, l'implant utilisé a été celui qui a été conçu par Branemark et ses collaborateurs. La perte des premiers implants est étudiée dans les cas suivants: denture inférieure complète, denture supérieure complète, denture partielle, dents greffées. La moyenne générale d'implants perdus était de 16,7 pour cent.

The loss of teeth is regarded by many patients as synonymous with aging. This attitude is centuries old and may be found in the cartoons of Da Vinci (1452-1519) and Holbein (1497-1543) who portrayed the elderly as edentulous. The vertical and horizontal bone loss which follows the loss of teeth has been well documented.¹ This has stimulated clinicians, for many years, to seek methods for replacement of the lost dentition. While conventional dentures prove adequate for the majority, a significant proportion of patients experience difficulty which increases as resorption of the ridge progresses.

The first report of an alloplastic dental implant was by Maggiolo in 1809² who describes the construction and use of a gold root implant and the clinical details of its insertion. He also remarks on the need to allow bone healing to occur before loading the implant with a prosthetic tooth replacement. However Rogers in 1845² indicates that the clinical course was less than satis-

factory. Harris (1887)³ used platinum coated with lead, to make root analogs, as did Edmunds (1889).⁴ Bonwill (1895)⁵ used gold or iridium, Payne (1898)⁶ silver, and Scholl (1905)⁷ porcelain. In 1913, Greenfield⁸ presented a paper advocating the use of a platinum root analog shaped like a basket. Unfortunately no long-term studies are presented and this aspect was criticized in the discussion which followed, notably by Dr. Cryer.

In more recent years, endosteal pins, blade implants of various designs and materials have been used.⁹ As with Greenfield's method, the lack of adequately controlled follow-up data has led to criticism and widespread lack of acceptance.

In 1969, Branemark and his co-workers¹⁰⁻¹² presented a titanium fixture which appears to be biocompatible and able to support extensive tooth replacements over a very long period. This device and the laboratory and clinical studies which have been performed have been extensively reported. The primary use of

the technique has been in the reconstruction of the fully edentulous, although other applications are presented. This paper describes a series of 35 cases, 12 of which are applications of osseointegrated dental implants to patients other than the fully edentulous.

Case Selection

The criteria for acceptance of a patient for this mode of treatment is based on anatomical and medical grounds. Anatomically, sufficient bone must be present to enclose the implant at the desired sites. This is determined clinically by palpation and radiographically using panoramic radiographs, lateral cephalograms and tomograms, where indicated. Insufficient bone in an otherwise suitable patient is not an absolute contraindication, however, since additional bulk of bone may be provided by a suitable bone grafting technique.

Medical contraindications are few and most patients who can tolerate the operative procedure are acceptable. Diabetes is not a contraindication. Within our group, we are divided in our views on the wisdom of placing the fixtures in patients with valvular heart disease. Patients who have had therapeutic irradiation to the jaws should be approached with great caution, and those whose expectations exceed the reality should also be considered very carefully before accepting them for treatment. Age of itself, is not a contraindication; our oldest patient is 80 years and the youngest 18 years.

The importance of a full, detailed explanation of the treatment cannot be stressed too strongly. The patient must be made aware of the basis of the technique, the success and failure rates that are known, possible complications and especially the time frame from the initial surgery to final completion. It has been our experience that once a decision to treat has been made, the patient is anxious to have the first procedure performed. The waiting period of 3-6 months while integration is occurring is, however, greeted with less enthusiasm and with a degree of impatience which is best managed when this period has been discussed at the outset. The patient becomes even more impatient if any delay should occur after the abutment procedure, and for this reason the prosthetic reconstruction is normally commenced one week after the abutments are placed, although in some cases a period of two or three weeks is required for adequate healing to occur.

It is our practice to have joint consultations on fully edentulous cases, partially edentulous and orthodontic cases prior to accepting the patient for treatment.

Clinical Material

The clinical cases on which this report is based are shown in **Table I**.

The surgical techniques used were essentially the same as those described by Adell et al.¹² The prosthodontic management has required an individual approach to each case, based on either fixed or removable bridgework.

Results

Of the 35 patients presented in this report, 15 were male and 20 female. The mean age was 55.6 years, with a range of 18-80 years.

The mean time since the abutment procedure was 8.1 months, range 19-2 months, and the mean time since fixture installation 12.3 months, range 27-5 months. Loading is considered to occur immediately on placing the abutments, since patients use them to support a suitably modified denture, or stress them in normal function prior to bridge placement.

The overall success rates for implant survival are shown in **Table II**. Thirty-four of the patients have been wearing their prostheses successfully; the other patient is wearing a temporary appliance while awaiting integration of two further fixtures.

Complications

The major complication which occurred during the treatment of this group of

patients has been failure of integration. This was frequently preceded by a small pyogenic granuloma over the affected fixture. The appearance of this lesion was not inevitably accompanied by a failure in integration; occasionally granuloma formation could be attributed to a loose cover screw. The overall implant loss was 16.7 per cent (**Table II**).

To date, the only implant losses which have occurred have been detected at the abutment procedure. No frank infections have been encountered. One irradiated case has exhibited an area of osteoradionecrosis around one fixture which was subsequently lost. Gingival inflammation is often seen around the abutments but this responds readily to a vigorous oral hygiene regimen.

Radiographic assessment of bone height around the fixtures will not be made for several months to allow meaningful comparison with the initial postoperative state.

Discussion

This preliminary report demonstrates applications of the osseointegration technique, not only in the fully edentulous but also as a means to the general rehabilitation or reconstruction of the dentition. We have been impressed with the load-bearing qualities of an integrated fixture, exemplified by the orthodontic case, where movement of all the lower teeth from premolar to premolar was accomplished in a 52-year-old patient, using a single fixture for anchorage.

Implant loss is to be expected in this technique, however careful the surgeon. It appears that success in the upper jaw is less than in the lower, not only for the fully edentulous as reported by Adell et al,¹² but in all types of cases. Clearly the fewer fixtures that are placed, as in the single tooth replacements or the partially edentulous, the more critical implant loss becomes to the success of the case. It is for this reason that a clear explanation of this phenomenon to the patient is essential before treatment is commenced.

Prosthetic reconstruction of the patients presented has provided a significant prosthodontic challenge, with endless variation. The techniques used are to be reported elsewhere but have involved fixed bridgework, removable bridges and the use of precision attachments and magnets.

Patient satisfaction has been very gratifying, many patients returning of their own volition to show the surgeon the completed prosthodontic reconstruction. In addition, several of the patients act in an advisory capacity to others about to undergo the procedure.

TABLE I

Clinical Cases (35 patients)

Reconstruction	Number of Jaws
Full lower	18
Full upper	6
Partial lower	4
Partial upper	3
Single tooth	4
Grafted cases	3
Orthodontic	1
Total	39

TABLE II

Overall success rate for implant survival

Reconstruction	Implants Placed	Implants Lost
Full lower	82	9
Full upper	38	10
Partial lower	11	1
Partial upper	9	2
Single tooth	5	1
Grafted cases	15	4
Orthodontic	1	0
Total	161	27

It would seem from these short-term results that extension of the technique for placement of osseointegrated dental implants to other intra-oral applications has not significantly diminished the success rate in the short term, and thus suggests that the method offers modalities of treatment which may greatly benefit patients other than the fully edentulous.

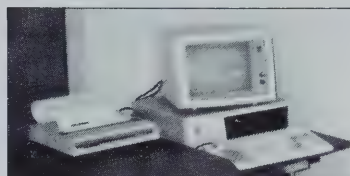
Dr. Symington is Professor and Chairman of the Department of Oral Surgery, University of Toronto, and Head, Division of Oral Surgery, Toronto General Hospital. **Dr. Listrom** is a staff oral surgeon, Toronto General Hospital. **Dr. Watson** is Professor of Restorative Dentistry, University of Toronto and Head, Division of Restorative Dentistry, Toronto General Hospital. **Dr. Brown** is a staff oral surgeon, Toronto General Hospital. **Dr. Copp** is a staff dental surgeon, Division of Restorative Dentistry, Toronto General Hospital.

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THE ROLE OF EXTRACTION IN PERIODONTAL THERAPY

Claude G. Ibbott, DMD, FRCD(C)
Regina, Sask.

SUMMARY

Periodontal treatment is directed towards retaining the natural dentition but it is not a heroic attempt to retain hopeless teeth. Some specific indications for extraction in periodontal therapy are: root proximity problems (Fig. 1), bone loss beyond repair (Fig. 2), serious furcation involvement (Fig. 3), and chronic endodontic failures, weakly supported isolated teeth, and fully or partially erupted third molars.¹⁻³

SOMMAIRE

Les soins parodontaires visent à conserver les dents naturelles, mais ne constituent pas un effort héroïque pour conserver celles qui ne présentent aucun espoir. En parodontie, les facteurs à considérer lorsqu'il s'agit d'extraire des dents sont les suivants: les problèmes causés par la proximité des racines

(tableau 1), les pertes osseuses irréparables (tableau 2), les graves problèmes de bifurcation (tableau 3) ainsi que les insuffisances pulpaires chroniques, les dents isolées mal soutenues et les troisièmes molaires qui ont complètement ou partiellement fait éruption¹⁻³.

Extraction, when indicated, provides not only for the elimination of questionable teeth but also provides for the retention and enhancement of alveolar bone around abutment teeth. In cases of extensive periodontal disease requiring restorative therapy, strategic extraction may provide an improved environment for the final restoration.

Although healing of an extraction socket may depend upon many factors, such as the degree of periodontal involvement, proximity of other teeth and the number of walls in the socket region, the healing is gener-

ally fairly predictable. Healing normally will occur from bone peak to bone peak with concurrent bone levelling (Figs. 4, 5, 6). Some osseous regeneration may follow healing of the extraction site (Figs. 7, 8). This may allow for optimal bony architecture following periodontal therapy, as well as ensuring postoperative maintenance control.

Dr. Ibbott is a periodontist in private practice, at 410 Midtown Centre, 1783 Hamilton St., Regina, Sask. S4P 2B6

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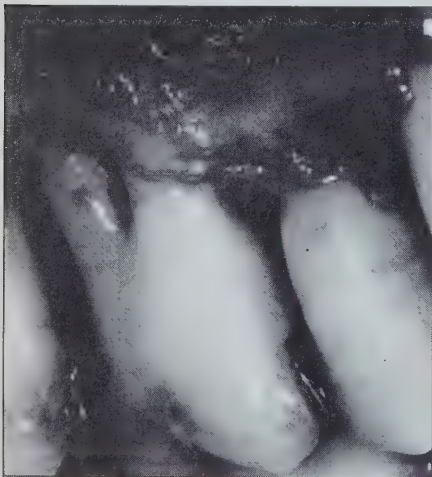


Fig. 1: Tooth #16 shows a root proximity problem on the distal root. An endodontic failure makes this tooth a candidate for extraction.



Fig. 2: Tooth #44 shows bone loss beyond repair.



Fig. 3: Tooth #26 shows a serious furcation involvement. The retention of the palatal root was not indicated.

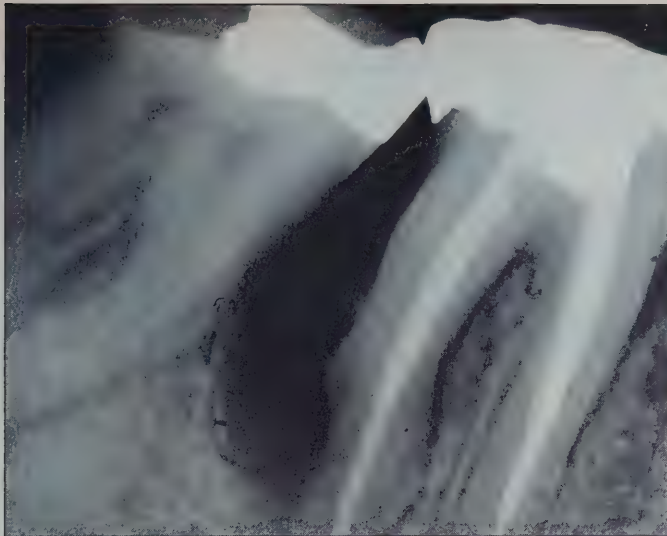


Fig. 4: Tooth #s 41 & 31 cannot be treated due to advanced loss of supporting tissue.

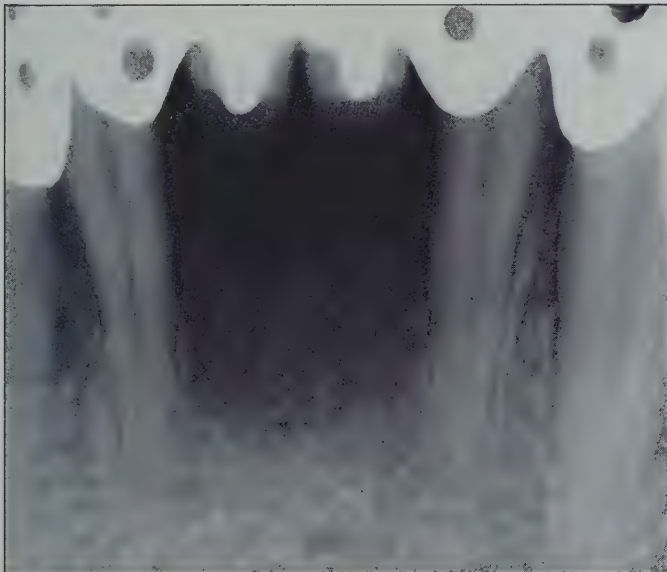


Fig. 5B: Shows the final restoration 18 months post-op.

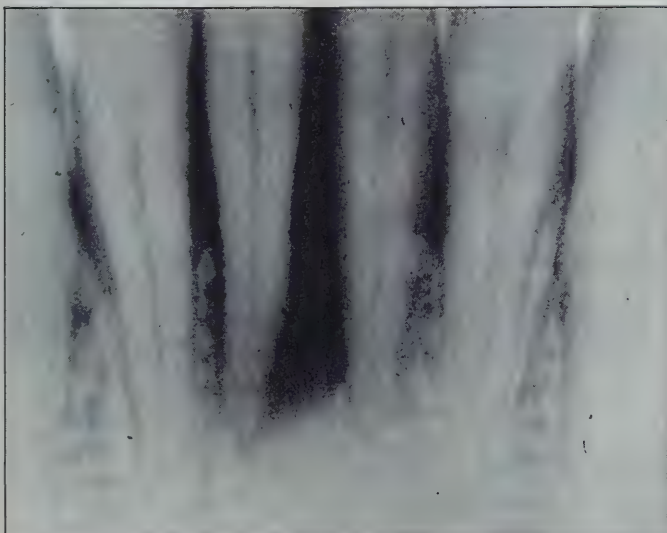


Fig. 7: Distal root of #47 has been sectioned and removed as has the distal root of #46.

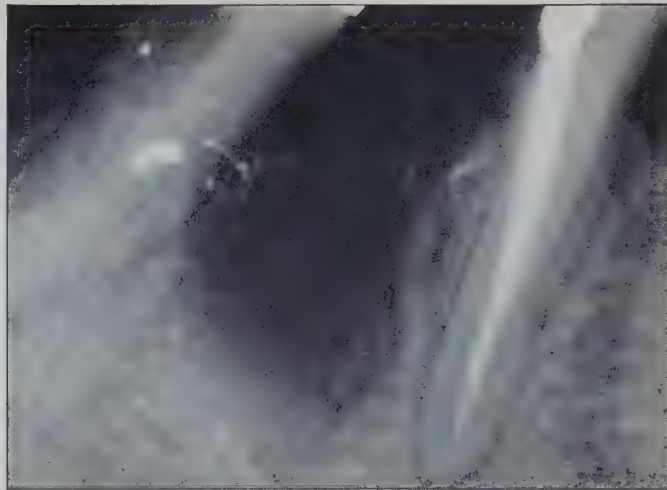


Fig. 5: Predictable bone healing has resulted from bone peak mesial #42 to bone peak mesial #32. The original incisors have been retained as temporary replacements. A twelve month radiograph shows a favorable environment for the final restoration.

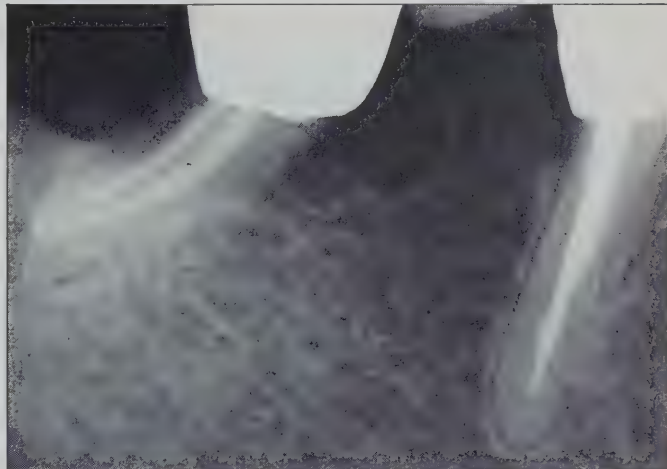


Fig. 6: Tooth #47 shows advanced loss of supporting tissue around the distal root in combination with a definite furcation involvement and periapical osteitis. #46 shows advanced loss of supporting tissue on the distal. Since the upper arch is intact it is of value to retain these teeth.

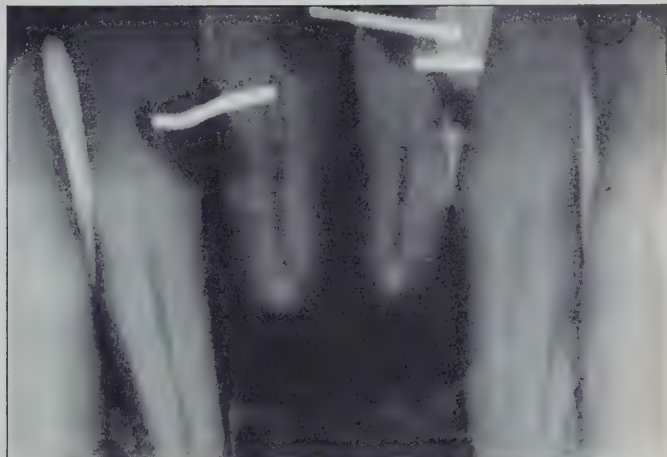


Fig. 8: Endodontics including root resection has been accomplished for the mesial root of #47. Predictable bone healing is evident from the mesial bone peak #47 to distal bone peak #46. This radiograph is five years post-treatment and shows the final restoration.

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ECTODERMAL DYSPLASIA

ASSOCIATED WITH CLEFT PALATE AND LOBSTER CLAW DEFORMITY OF HANDS AND FEET

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Saudi Arabia

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ABSTRACT

Ectodermal dysplasia may occur as an isolated X-linked or autosomal recessive entity or associated with a large number of other abnormalities. This case report presents a syndrome with ectodermal dysplastic changes and may represent a variant of the condition described as the ectrodactyly – ectodermal dysplasia – clefting (EEC) syndrome.

SOMMAIRE

La dysplasie ectodermique peut se présenter comme une entité récessive isolée liée au sexe ou autosomique, ou être associée à un grand nombre d'autres anomalies. Le cas observé ici est celui d'un syndrome avec des changements dysplasiques ectodermiques et peut représenter une variante de ce qu'il est convenu d'appeler en anglais l'ectrodactyly ectodermal dysplasia – clefting (EEC) syndrome (syndrome de la fissuration ectrodactyle (dysplasie ectodermale).

Ectodermal dysplasia, as the name implies, is an abnormality affecting the ectodermally derived tissues and organs. The most commonly involved are the sweat glands (resulting in hypo- or anhidrosis), the hair (wispy), the teeth (fewer in number and conical in

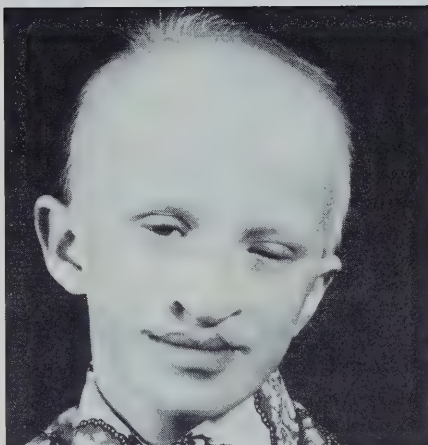


Fig. 1. Sparse hair on scalp and repaired cleft lip.



Fig. 2. Midface retrusion.

shape). There is usually a midface retrusion that is apparent both clinically and radiographically.¹ Ectodermal dysplasia may occur as an isolated X-linked or autosomal recessive entity or may be associated with a large number of other abnormalities.

Witkop et al.² in 1975 reviewed the ectodermal dysplasia syndromes and presented a new one. With this new syndrome there were at least 40 separate ectodermal dysplastic syndromes. We present here a variant example that has ectodermal dysplastic changes as part of its make up.

CASE REPORT

B.W., an 8-year-old Caucasian boy, presented for prosthetic dental treatment at the College of Dentistry, University of Saskatchewan, because of a lack of teeth and oro-nasal communication, both of which made speech and eating difficult.

On examination, he was found to have sparse hair and a midface retrusion resulting in relative mandibular prognathism. He had no eyelashes (Fig. 1 and 2), his skin was dry and itchy, especially on the hands and feet. The hands (Fig. 3) and feet (Fig. 4) which were grossly deformed, had

two digits each, arranged into a lobster claw appearance. Intraorally, no teeth were visible and there was evidence of a repaired cleft lip and palate (Fig. 7). The tongue was large and fissured.

No gross skull abnormalities were revealed on radiographs, although there were slightly fewer convolutional markings than normal. There were no teeth within the jaw bones. Skull radiographs at seven months had revealed some teeth to be present but these had been removed "because of infection". The shape of teeth #46, 85 and 74 could not be determined accurately; they were still early in development but appeared slightly conical in shape.

The radiographs of the hand (Fig. 5) revealed what could be fusion of hemate and capitate. The phalanges of the left thumb

were fragmented and the right showed an epiphyseal centre only at the distal end of the proximal phalanx for the thumb. There was only one metacarpal each on the other side of the cleft. This resulted in the "lobster claw" deformity. A similar deformity was seen in the feet (Fig. 6).

The medical history showed the patient to be the product of an uneventful pregnancy and pre-term delivery at 37 weeks gestation. The 21-year-old mother and 30-year-old father, who were unrelated, were both healthy with no apparent abnormalities. No abnormalities were present in other family members.

Shortly after birth, the patient had feeding problems due to the cleft palate and was found to have a right hydronephrosis, hydro-nephrosis and no demonstrable left kidney

function. No chromosomal abnormality was found and there was no evidence of severe mental or learning problems.

The term ectodermal dysplasia denotes a number of syndromes that have at least two of the following characteristics: abnormal hair (trichodysplasia), abnormal or missing teeth, abnormal nails, abnormal or missing sweat glands.³ Standard ectodermal dysplasia tends to have a hypotrichosis, conical or missing teeth, and a decreased number of sweat glands, and may have spoon-shaped nails.⁴⁻⁷ These disorders may be inherited as X-linked recessive or dominant or autosomal dominant or recessive.¹¹ Some forms are lethal in males.⁸⁻¹¹

Cleft lip and/or palate have also been found to be associated with some cases of ectodermal dysplasia. Among these are local and dermal dysplasia,^{9,10} odontogenic hypohidrotic dysplasia,¹² hypohidrotic ectodermal dysplasia with cleft lip, palate, ocular, genital and digital anomalies,^{13,14} ectodermal dysplasia, cleft lip/palate (EEC syndrome),^{1,15,16} and orofaciogigital syndrome.⁵ Hand and foot abnormalities such as syndactyly, polydactyly and clinocamptodactyly have also been described associated with ectodermal dysplasia with cleft lip, palate, ocular and genital digital anomalies,^{13,14} xeroderma, talipes and enamel defects-XTE syndrome,¹⁷ oculodonto-osseous dysplasia,¹⁸ orofaciogigital syndrome,¹⁹ and ectodermal dysplasia and deafness.²⁰

Of this group, only the following have cleft palate and hand and foot changes: focal dermal hypoplasia (FDH), hypohidrotic ectodermal dysplasia with cleft lip/palate, ocular, genital and digital anomalies (CPOGD), and orofacio-digital syndrome (OFD).

CPOGD seems to be ruled out in this case because it includes both ocular and genital changes, which the current patient did not have. OFD can probably be ruled out because it is a X-linked dominant trait and lethal in males. Focal dermal hypoplasia, which is X-linked, is also classified as lethal in males. There are also a variety of ocular changes, ranging from anophthalmia to microphthalmia, strabismus and nystagmus, which were not present in this case.

The case reported herein may represent a variant of the condition described as the ectrodactyly-ectodermal dysplasia-clefting (EEC) syndrome. Examples of the above disorder were reported by Brill et al,²¹ Bixler et al,²² Pashayan et al²³ and Penchaszadeh and De Negrotti.²⁴ The disorder which is genetically determined appears to follow in its inheritance an autosomal dominant pattern of transmission. As this child was the only known affected member of the family, with phenotypically normal parents and distant relatives, it is likely that his

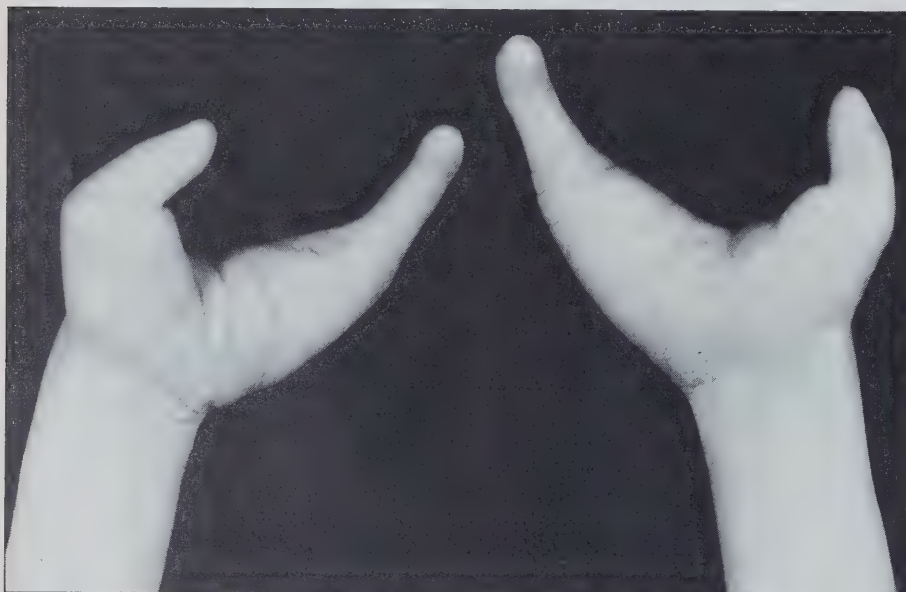


Fig. 3. Lobster claw appearance of hands.

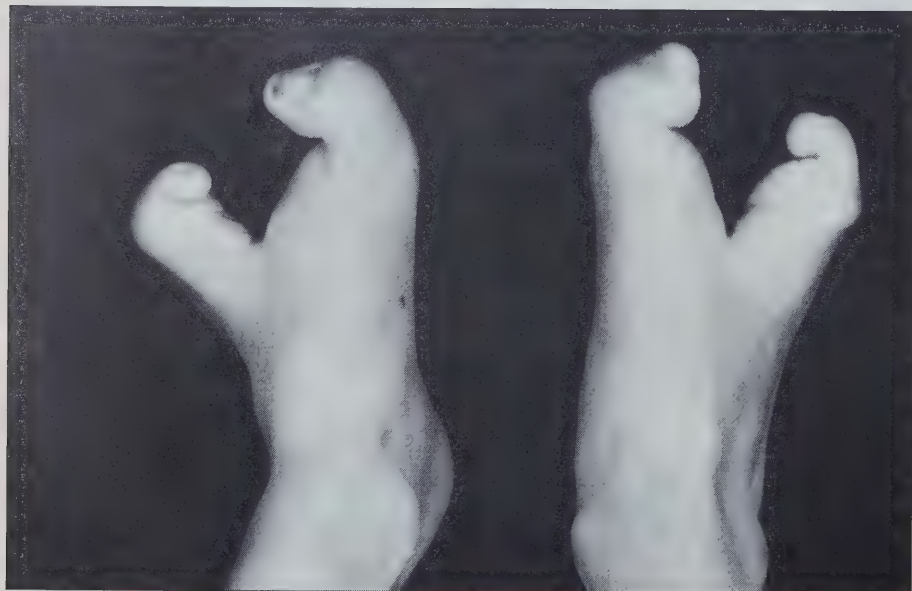


Fig. 4. Lobster claw appearance of feet.

affliction represents a fresh mutation which had arisen *de novo* in either of the parents' gametes or in their precursors. Whereas replication of the genetic material, along with the *de novo* DNA synthesis, continues in the germ cell line in the male gonad throughout reproductive life, no new DNA synthesis appears to occur in the precursors of human ova past the fifth month of intra-uterine life. Genetic mutations, particularly point mutations responsible for single-gene disorders as in the present case, are much more prone to arise during new DNA synthesis. Chromosomal rearrangements and damage, on the other hand, may take place throughout life and are less dependent for their inception on DNA synthesis and gene replication. Therefore, it is more likely that the culpable *de novo* mutational event had occurred in the precursors of the father's spermatozoon rather than in the mother's ovum or its precursors.

It seems probable, therefore, that a fresh dominant mutation had arisen in the father's germ cell line which affected the precursors of the paternal gamete, the spermatozoon, which upon fertilization gave rise to the zygote from which this patient developed. Although the risk of recurrence of a similar affliction in future siblings of our patient is vanishingly small, i.e., in the order of the mutation rate in man somewhere between 1×10^{-5} to 1×10^{-4} , the risk of recurrence of the disorder in our patient's offspring would be 50 per cent, regardless of sex. This is, of course, based on the presumed autosomal dominant pattern of inheritance reported in similarly described cases.

Given the low reproductive fitness of victims of this disorder, i.e., their relative contribution of offspring to the next generation, perhaps the majority are likely to be the result of fresh mutations rather than inherited from an affected parent. In this regard, this condition is akin to other well known autosomal dominant disorders, for example, achondroplasia. This is, of course, based on an equilibrium existing between abnormal genes contributed by mutation and those lost through negative selection. It is therefore not surprising that our patient's affliction could be the outcome of a fresh dominant mutation rather than due to transmission from an affected parent.

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Reprint requests to Dr. Chaney.

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Fig. 5. Radiograph of hands.



Fig. 6. Radiograph of feet.

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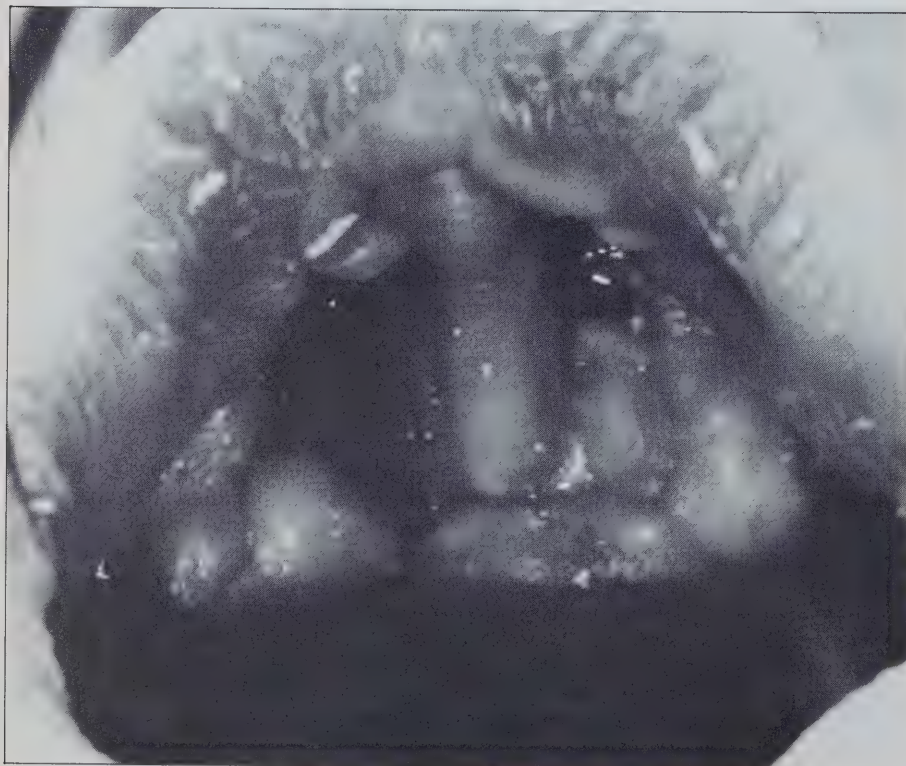


Fig. 7. Repaired cleft palate.

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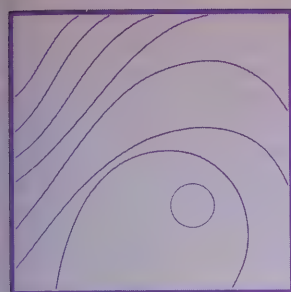
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Michael Heners/Christian Knellesen/Edward Levinson/Harold W. Preiskel/Hubertus Spiekermann/Heiner Weber/George Zarb

Trauma from Occlusion: A Viable Clinical Concept?
Herman Corn/J. David Kohn/Jan Lindhe/Alan M. Polson

Gingival Enhancement: Still a Viable Clinical Concept?
Raul G. Caffesse/Mick R. Dragoo/Leonard Hirschfeld/Clifford Ochsenbein

Saturday, May 3

TMJ Therapy
Leonard Abrams/Peter E. Dawson/Thomas M. Graber/Daniel M. Laskin/William H. McHarris/Mark Piper

Pocket Elimination: Still a Justifiable Objective Today?
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Bone Grafts: Bone Substitutes in Periodontal Therapy
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March 5-8, 1986: Western Canada Dental Society Curling Bonspiel, Vancouver, B.C. Contact: Dr Elgin Duke, 10340-134 A St. Surrey, B.C., V3T 4B8, 604-585-3177.

March 16-20 1986: The International Orthodontic Conference, Sheraton Rotorua Hotel, Rotorua, New Zealand. Contact: Ron Roberts, Air New Zealand, 151 Bloor St. West, Suite 340, Toronto, Ont. M5S 1S4.

March 16-20: International Congress on Primary Health Care and Health Promotion, Messe-Kongress-Centre, Dusseldorf, Federal Republic of Germany. Contact: IHC Gesellschaft für internationale Gesundheitsplanung m.b.H. Keilortallee 1, 2000 Hamburg 13, Federal Republic of Germany.

APRIL/AVRIL 1986

April 3-6, 1986: World Congress VIII for Oral Implantology, Macutosherton Hotel, Caracas, Venezuela, South America. Contact: Margaret Jackson, Executive Director ICOI, P.O. Box 2277, Grand Central Station, New York, New York, 10163, 201-783-6300.

April 5-12: 15th International Alpine Dental Conference, Hotel Annapurna, Courchevel, 1850, France. Contact: International Dental Seminars, 24 Cadogan Square, London SW1X 0JP, England.

April 6-9, 1986: International Rehabilitation Week, includes a conference and exhibition at the New York Convention Centre, New York City. Contact: EJJ Management Inc., 225 West 34th St. Suite 905, New York, NY. 10122, 212-563-5461.

April 7-12 1986: 23rd International Dental Show and German Dentists' conference in Cologne, Germany. Contact: Messe-und Ausstellunge-Ges. m.b.h. Koln, Messeplatz, Postfach 210760, D-5000 Koln 21 (Deutz) West Germany.

April 11: 3rd annual John A. Sherman Memorial Lecture presented by the Alpha Omega Fraternity, Skyline Hotel, Toronto, Ontario. Speaker is Dr. J.O. Andreasen on "Dental Traumatology." Contact: Alpha Omega, 2016 Bathurst St., Toronto, Ontario, M5P 3L1 or call 416-782-7277.

April 11-12, Alberta Academy of Periodontics Symposium, Calgary Convention Centre. Speaker: Dr. Robert Genco of Buffalo, N.Y. Dept. of Oral Biology, University of New York. Contact: Dr. M.P. Miller, 302-2303 4th Street S/W, Calgary, or call (403) 228-5907.

MAY/MAI 1986

May to October 1986: Vancouver and District Dental Society in conjunction with the Inter-Specialty Dental Society of British Columbia will be presenting multidisciplinary seminars, endorsed by the College of Dental Surgeons of British Columbia, from May through October 1986 to coincide with Expo '86. Limited Attendance. Inquire early by contacting Susan Ryan, c/o Vancouver and District Dental Society, 1125 West 8th Avenue, Vancouver, B.C. V6H 3N4. 604-734-0717.

May 1-4, 1986: Alabama Implant Congress XII, Birmingham, Alabama. Contact: The Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama, 35206, 205-836-2211.

May 2-4, 1986: The 2nd International Symposium on Periodontics and Restorative Dentistry. Westin Hotel, Boston Mass. Sponsored by Quintessence Publishing Co. Inc. Contact: Quintessence Publishing Co. Inc. 8 South Michigan Ave. Chicago Ill. 60603. 312-782-3221.

May 11-14, 1986: Ontario Dental Association 119th Annual Spring Session. The Sheraton Centre Hotel, Toronto. Contact: Diana Thorneycroft, 234 St. George St., Toronto, Ontario, M5R 2P1.

May 12-16: 40th Annual Meeting of the American Academy of Oral Pathology. Westin Hotel, Toronto, Ontario. Contact: Dr. Dean K. White, University of Kentucky College of Dentistry, Lexington, Kentucky, 40536 USA.

May 21-23, 1986: International Life Sciences Institute, Symposium on Sweetness. International Conference Centre of Geneva, Switzerland. Contact: Symposium Secretariat, Conference Associates ILSI, 27A Medway Street, Westminster, London SW1P 2BD, England.

May 21-23, 1986: Expodent 1986 Trade Fair and Congress for Present Day Dentistry and Dental Technology. Utrecht, Holland. Contact: Royal Netherlands Industries Fair, Postbus 8500, 3503 RM, Utrecht Holland.

May 23-26, 1986: The 34th Annual Fitzgerald Dental Radiology Workshop will be held at the Delta Mountain Inn, Whistler, B.C. Contact: Dr. O.F. Wright, #330-5655 Cambie St. Vancouver, B.C. V5Z 3A4, 604-261-8021.

May 25-29, 1986: Journées Dentaires du Québec. Palais des Congrès de Montréal, Québec. Pour informations, communiquer avec le docteur Michel Jahjah, président du Conseil de gestion des Journées dentaires, 625 boul. Dorchester ouest, 5^e étage, Montréal, Québec H3B 1R2, Tél: 514-875-8511.

JUNE/JUIN 1986

June 20-23: Canadian Academy of Periodontology Annual Scientific Meeting and National Periodontal Teaching Conference. Sheraton Hotel, Halifax Nova Scotia. Contact: Dr. Ed Hannigan, 590-5991 Spring Garden Road, Halifax, N.S. B3H 1Y6.

June 26-29, 1986: 10th International Symposium on Dental Hygiene. Oslo,

Norway. Scandinavia Hotel. Contact: The Scientific Committee, 10th International Symposium on Dental Hygiene, P.O. Box 438, 1301 Sandvika, Norway. For more information contact either Inger-Lise Bryhni or Elisabeth Olsen Kolbjornsen at the above address.

June 27-28: Joint meeting, Association of Prosthodontists of Canada and Canadian Academy of Prosthodontics in conjunction with Expo '86, Vancouver, B.C. Canada. Contact: Dr. C. Osadetz, 1046 Dentistry/Pharmacy Building, University of Alberta, Edmonton, Alta. T6G 2N8. 403-432-3631.

June 30-July 4: The 8th Congress of the International Association of Dentistry for the Handicapped, Bergen Norway. Contact: Dr. Marit Moland, Helsm Vei 19, 5032 Minde, Norway.

JULY/JUILLET 1986

July 1, 1986: Applications are being accepted for the **Postdoctoral program, Dental Diagnostic Science at the University of Texas**, Health Science Center at San Antonio for the class beginning **July 1, 1986**. Address inquiries to: Office of the

Associate Dean for Advanced Education, The Dental School, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio TX. 78284.

July 4-6: Dentistry '86, the British Dental Association Annual and Scientific Meeting, Manchester, England. Contact: Helen MacKay, Meeting Planner, 64 Wimpole St. London, W1M 8AL.

July 6-11, 1986: The World Dental Conference, Jerusalem, Israel. Deadline for submission of Abstracts: **March 15, 1986**. Contact: Rifka Boruchowicz or Dalia Raif, convention co-ordinators, Diamond International Tours Inc, 1183 Finch Avenue, Suite 203, Downsview, Ontario. M3J 2G2, 416-663-9100.

AUGUST/AOÛT 1986

August 24-27, 1986: Canadian Dental Association Annual Convention. Halifax Nova Scotia. Contact: CDA, 1815 Alta Vista Dr. Ottawa, Ont. K1G 3Y6.

August 25-29, 1986: Biennial Conference of the New Zealand Dental Association, Wellington New Zealand. Contact:

Conference Secretary, New Zealand Dental Association, P.O. Box 3709, Wellington, New Zealand.

SEPTEMBER/SEPTEMBRE

September 8-10: International Association for Dental Research 20th Scientific Congress. Holiday Inn, Sandton, Johannesburg, South Africa. Contact: Professor E. Mizrahi, Congress Convenor, P.O. Box 64226, Highlands North, 2037, South Africa.

OCTOBER/OCTOBRE

October 9-11: Dental/Technic-86 International Dental Prostheses Exhibition in conjunction with the 8th Catalan Symposium. Barcelona Conference and Exhibition Centre. Barcelona, Spain. Contact: Associacio de Protetics Dentals de Catalunya, Arago, 120 Entl 2 Barcelona, Spain.

October 18-21: American Dental Association 127th Annual Session, Miami Beach Convention Centre, Miami Florida. Contact: American Dental Association, 211 E. Chicago Ave., Chicago, Illinois, USA 60611.



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SASKATCHEWAN—Porcupine Plain, a thriving community of 1000 and located in the Northeast Parkland of Saskatchewan, requires a dentist. We are located 50 miles from the next larger trading center in an excellent hunting and fishing area. Space for a clinic is available and incentives may be arranged. For further information contact: Barry Warsylewicz, Administrator, Town of Porcupine Plain, Porcupine Plain, Sask. S0E 1H0 or phone (306) 278-2262.

SASKATCHEWAN—Regina. Dentist required for family practice with two other dentists, fully equipped operatories in 1985. Located in a busy medical and dental building in downtown Regina. Please apply to CDA Box No. 2311.

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MANITOBA—Winnipeg. Part time Associate Wanted. Excellent opportunity for highly motivated individual. Some travel required but well rewarding; 3 to 4 days per week involved. Please reply to: Dentist, Box 151, RR1A, Winnipeg, Manitoba R3C 4A2.

ONTARIO—Our Etobicoke group practice is expanding, and we will need to add another hygienist to enable us to continue to provide quality preventive care for our patients. This position will be available in April, after we have moved into our new office. If you are interested in joining a team that is providing comprehensive care to a full range of patients, from paed to adult, please contact Mrs. Jone McKenzie at 416-621-4172.

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ADVERTISING INDEX

Buffalo Dental Manufacturing	
Canada	153
C.D.S.P.I.	113, 135, 146, 152
Colgate-Palmolive Canada	122
Computer Utility Management	
Limited	141
Conference Travel of	
Canada Inc.	155
Dental Gold Institute	
of Canada	141
Diamond International	
Tours Inc.	152
Hoechst Canada Inc.	138
John O. Butler Co.	IBC
Pfingst & Co. Inc.	131
Premier Dental Products Co.	120
Procter & Gamble Inc.	IFC
Quintessence Publishing Co. Inc.	151
Rhône-Poulenc Pharma Inc.	116
The Alberta Academy of	
Periodontics	121
The Bermuda International	
Prosthodontic Conference	121
Tri Hawk International Inc.	143
Warner-Lambert Canada Inc.	114, OBC
Webber Inc.	137

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Letters of application and curriculum vitae together with three names for reference purposes should be sent to:

Dr. D.L. Singer, Chairman
Periodontics Search Committee
College of Dentistry
University of Saskatchewan
SASKATOON, Saskatchewan
S7N 0W0

Closing date for applications is March 15, 1986.

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The Division of Graduate/Postgraduate Studies,
Faculty of Dentistry,
2199 Wesbrook Mall,
The University of British Columbia,
Vancouver, B.C. V6T 1Z7.

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Applicants are requested to forward a letter of application and current curriculum vitae. In addition they should arrange for three references to be forwarded independently. Deadline for receipt of material is March 31, 1986. Applications or further enquiries may be directed to:

Dr. J.G. Silver, Head
Department of Oral Medicine
Faculty of Dentistry
University of British Columbia
2199 Wesbrook Mall
Vancouver, B.C. V6T 1Z7
Telephone: (604) 228-4597



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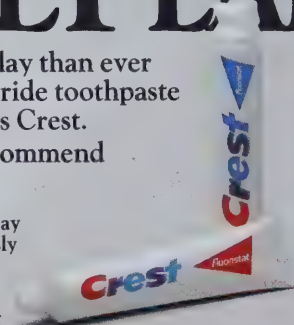
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EDITORIAL 165

Good for Life is the theme of the CDA Dental Awareness Program, but everyone has to work to make the public aware, CDA's President urges.

NEWS UPDATE 166

Theme announced for 1986 FDI World Congress.
Precautions must be taken when treating patients with cataracts.
Dr. James D. McLean honored in Nova Scotia.
CFDE has a new chairman.
Profiles of CDA Convention '86 committee chairpersons.
Convention events in table form.
The 'Ad Lib' Column.

BRIEFLY 177

Dental news items from across Canada and around the world.

LETTERS 182

Publication of the report of the Working Group on Dental Hygiene is termed a 'significant development' in dental hygiene in Canada.

CDA RESOURCE CENTRE 187

A list of articles available from the CDA Resource Centre/Library on the subject of Speech Disorders and Malocclusion.

BOOK REVIEWS 188

Surgery for Dental Students
The Dental Clinics of North America (Dentofacial Trauma 7/82)
The Dental Pulp: Biological Considerations in Dental Procedures
The Dental Office: A Pictorial History
Trace Elements and Dental Disease

ARTICLES 198

EXECUTIVE SUMMARY: REPORT OF THE WORKING GROUP ON THE PRACTICE OF DENTAL HYGIENE IN CANADA 198

IT ONLY TAKES A FEW SECONDS TO MAKE YOU THINK SERIOUSLY ABOUT DISABILITY INSURANCE 206

Bob Brandon, DDS

SCIENTIFIC 211

A STUDY OF THE GINGIVAL RESPONSE TO POLISHED AND UNPOLISHED AMALGAM RESTORATIONS 211

Farhad Hadavi, et al

THE ETIOLOGY AND TREATMENT OF INTRINSIC DISCOLOURATIONS 217

P.A. Hayes, et al

GARDNER'S SYNDROME: DIAGNOSIS IN A GERIATRIC PATIENT AND DENTAL IMPLICATIONS 225

Gerard L. Lapeer, et al

AILERONS PLEINS À RÉTENTIONS MACROSCOPIQUES 229

Denis Robert, et al

CDA RSP 179

ANNOUNCEMENTS 237

MARKETPLACE 243

ADVERTISERS' INDEX 242

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FOCUS ON DENTAL HEALTH MONTH

Next month is Dental Health Month in Canada. It is a time for our profession to focus public attention on the benefits of good dental health. In other words, we as dental professionals want to increase dental awareness in the citizens of Canada.

This logically brings up the CDA Dental Awareness Program (DAP) which is well into its second year at this time. This program focuses on the issue of dental awareness for 12 months of the year — not just for the month of April. Good for Life should be a familiar theme to us all by now; however, everyone has to work to make the public aware of this theme — and its inherent message of the importance of keeping the teeth Good for Life.

There are some obvious reasons to coordinate the provincial programs with the national program. A well-planned approach will be more effective in communicating our message. It will give the public the perception that the aims of the programs are similar; that is, to make people more aware of the value of good dental health. A united effort both provincially and nationally is the most effective way of generating public awareness.

This year there have been several workshops held to help the people in charge of the provincial efforts become more familiar with the CDA program. Some provinces have chosen to buy in, so to speak, while others have felt that their program was successfully run on an individual basis.

The important issue here is that we are all headed in the same direction. Not via the same road, perhaps, but our final destination is the same.

I have been asked frequently in the past months since the inception of the DAP — “will it have any effect?” I believe that it will but more importantly, I know that nothing will improve if we don't try.

Measuring the success of the DAP is not easy. The short term results of the program will not be tangible. What we have noticed is a higher degree of visibility in the media. More newspaper, radio and TV articles of a positive nature have been evident than ever before. Our clipping services indicate that there has been an increase of 250-300 per cent in the number of dentally related articles in the newspapers.

We have had coverage in *Maclean's* and *L'Actualité* with the National Dental Health Checkup, reaching 4,000,000 Canadians. A second supplement in *Chatelaine* magazine is planned for this year. We also got tremendous coverage of the AIDS press conference in Ottawa, which featured Dr. Jens Pindborg and Dr. John Hardie.

All in all, the objective of visibility is clearly being met. The long term tangible results, such as increased numbers of patient visits will probably not be in evidence for several years. However, ParticipAction started small and look at it now! Just let anyone try to tell me that there aren't more people jogging, swimming, biking and hiking than ever before!

In spite of the efforts of the national and provincial organizations, the most important cog in the wheel still remains the individual dental health care worker. Are you taking the time to explain the value of good dental health to your patients? Do you make them aware of the consequences of losing teeth? Do you help them understand their role in the prevention of disease and how it can be a hand-in-hand effort with the dental team? If you can say “yes” to all of these questions, you probably don't have a busyness problem.

Dental Health Month is a national, provincial, municipal and individual program. We all have a part to play. If we can be successful in making the public aware of the need for good dental care, it will be an “all win” situation: the citizens of Canada will have better teeth — Good for Life — and the dentists of Canada will use their professional skills in a more productive manner. What could be nicer?

*Dr. Brad Holmes
President, CDA*

News Update

"REACHING OUT TO THE 90's" — THEME OF FDI 1986 CONGRESS

Reaching out to the 90's is the theme for the 74th Annual World Dental Congress of the Fédération Dentaire Internationale (FDI), which will be held in the Philippine International Convention Center, Manila, Philippines, from 9-15 November, 1986.

At the congress in Belgrade, Yugoslavia, final touches were placed on the scientific program for the Philippine meeting.

The main themes for the Congress are "Orthodontic care: generalist or specialist", "Dental products: What we have now and prospects for the future" and "Radiographic interpretation and misinterpretation".

In addition to the main themes, there will be a symposium on "Herbal medicine in dentistry", in which studies on the use of common plants for medicinal and dental purposes will be discussed by Philippine researchers.

A symposium jointly sponsored by the FDI, the Philippine Dental Association and the Western Pacific Regional Organization of the World Health Organization will look beyond the 90's and focus on achieving oral health for all by the year 2000.

In addition, in response to popular request, a symposium will be added on "AIDS" (Acquired Immune Deficiency Syndrome). This will include the biological facts, as they are known and the impact of the disease on the general dental practitioner and society.

Speakers for the sub-themes under each of the three main themes have also been finalized. They are:

Main Theme 1: Orthodontic care: generalist or specialist.

1. The impact of changing patterns in dental disease on the practice of orthodontics — W. Kunzel (German Democratic Republic)
2. The role of the general practitioner and the orthodontist in the provision of orthodontic care — J.R. Linge (Norway)
3. Undergraduate and continuing education in orthodontics: A view into the 1990's — A.A. Lowe (Canada)

Main Theme 2: Dental products: What we have now and prospects for the future (sponsored in conjunction with the Commission on Dental Products).

1. The safe and effective use of dental amalgams — I. Mjør (Norway)

2. Should available composite resins be used in posterior teeth? — K. Leinfelder (USA)

3. The bonding of restorative materials to tooth substance — R. Bowen (USA)

4. Bone-inducing materials: Their place in dentistry — J. Stanford (USA)

Main Theme 3: Radiographic interpretation and misinterpretation.

1. Radiographic interpretation of diseases of the periodontium — P.H. Hirschmann (UK)

2. Radiographic interpretation of endodontic lesions — B.C. Tidmarsh (New Zealand)

3. Radiographic assessment of the orthodontic patient — N.J.D. Smith (UK)

4. Radiology in the management of impacted teeth — I. Sewerin (Denmark)

The Congress in 1986 will be the first time that the Philippines has been host to an FDI Annual World Dental Congress. The local organizing committee is expecting some 7000 participants from 83 member countries.

The members of the local organizing committee are: Dr. P.E. Gonzales, Chairman; Drs. R.C. Navia and D.J. Lim, Deputy Chairmen; Dr. S.P. San Juan, Secretary-General, and Dr. A.S. Veloir, Treasurer.



Dr. William R. Thompson, right, a Past-President of the Canadian Dental Association, chats with fellow FDI Council member Dr. C. Ross, of New Zealand, during the 73rd Annual World Dental Congress in Belgrade, Yugoslavia. (Photo: FDI/Gurney)



Dr. C.R. Newbury of Australia, is seen during his installation as President of the Fédération Dentaire Internationale by Dr. Jean Jardiné, of France, the outgoing President. The ceremony took place during the 73rd Annual World Dental Congress in Belgrade, Yugoslavia. (Photo: FDI/Gurney)

AD LIB

CHEWING GUM

by Cuspid

If you could find something that relaxes tension, gives the feeling of relief, helps concentration, maintains alertness, reduces muscular tension, and might possibly be a secret war weapon, you'd think it was practically an elixir of life, a panacea. Right?

Well, whether you chew it or eschew it, those are some of the claims its manufacturers make for gum. Not only that, says a blurb from Wrigley's head office in Chicago, but gum moistens and refreshes the mouth and throat, sweetens the breath, helps keep teeth clean . . . and neutralizes traces of acids from fermented food that might cause tooth decay.

Of course, people have always chewed stuff they didn't intend to swallow. For centuries the Greeks chewed mastic gum, a resin obtained from the bark of the mastic tree; but modern chewing gum had its beginnings in the middle 1860s when chicle was brought to the United States and tried as a chewing gum ingredient. Chicle comes from the milky juice or latex of the sapodilla tree, *achras sapota* which grows in the tropical rain forest of Central and South America.

Mr. William Wrigley, a soap salesman, entered the chewing gum business in 1892; one of the pioneers in the use of advertising to promote the sale of branded merchandise, he was able to take his company to the forefront of chewing gum companies by that means.

During World War II, according to the Wrigley's handout, "the armed forces took large quantities, as gum helped ease tension, promote alertness and improve morale among our fighting men." However, since the company couldn't make enough gum to meet everyone's needs, it concentrated all of its production on manufacturing the standard gum for the armed forces while developing a lesser version for civilian users . . . who, presumably, became slightly more tense, vague, droopy, dry-mouthed and unsweet of breath. Seriously, though, the encyclopedia reports that chewing gum use rises in periods of social tension: in the United States, annual per capita consumption, for example, went from 39 sticks in 1914 to 89 in 1924; from 98 in 1939 to 165 in 1953.

What is this panacea concocted of? As well as the latex base, the main ingredients are: sugar, corn syrup, softeners and flavourings. The end product of this mixture, even though nobody actually eats it,

is classified as a food product and must meet the strict standards of the US Food and Drug Administration.

The Wrigley people report that because regular chewing gum contains sugar and is held in the mouth for some time, dentists felt for many years that it might be harmful to teeth. However, manufacturers claim that recently there has been more and more agreement that normal consumption of gum is harmless. The Wrigley people go on to say that since chewing stimulates saliva which dissolves and washes away the sugar in chewing gum very rapidly, about 90 per cent of the sugar in a stick is chewed out in two or three minutes, and less than 1 per cent remains after ten minutes. They conclude that the saliva stimulated by gum chewing tends to neutralize mouth acids that can be harmful to teeth.

But even so, Wrigley's and other manufacturers have added gums that contain no sugar at all or purport not to harm your 'dental work'. And a report in the *Journal of the American Dental Association* (April 1984) concludes that "eating foods containing sucrose between meals can be highly cariogenic. The use of sucrose substitutes that provide the hedonistic appeal of sucrose, and yet are not fermented by the plaque flora to the low Phs that are associated with caries, is a reasonable approach to caries control. Xylitol, a sweet tasting pentitol, has been reported to cause an 80 per cent reduction in caries increment when chewed in a gum."

The authors conclude that "the chewing of xylitol gums for four weeks caused a significant reduction in saliva levels and plaque proportions of *S mutans* compared with pre-treatment values."

More recently, we've seen the advent of a chewing gum that apparently helps people stop smoking. An article in the *British Medical Journal* (June 28, 1980) titled Clinical Use of Nicotine Chewing Gum, suggests that, while earlier trials showed modest advantages for the gum over a placebo, improvements to the gum and more experience in its use now show that long term success rates of 40 per cent or more can be obtained in smoking cessation.

And who knows what may be next for the humble piece of gum? Use as an either before, after or during contraceptive? A six course meal in a tiny uncariogenic stick? It's a thought to chew on.

NOVA SCOTIA ASSOCIATION HONORS DR. JAMES McLEAN

Dr. James D. McLean of Halifax, has been honored by the Nova Scotia Dental Association as the recipient of the Dr. Philip S. Christie Award for Distinguished Service. The award, the highest honor the NSDA can bestow, recognizes individuals who have given outstanding service to the dental profession.

The presentation was made by the late Dr. Christie's widow, at a meeting of the Halifax County Dental Society.

Dr. McLean was Dean of dentistry at Dalhousie University from 1954 to 1975, was founding chairman and a member of the CFDE Board of Trustees, 1962-1970; Chairman of the CDA Council on Education, 1958-1962, and the Council on Ethics from 1949 to 1958.

He has practised dentistry for 43 years, since his graduation from the University of Toronto in 1942. He served first with the Royal Canadian Dental Corps from 1942 to 1946. Following his armed services career, he practised in Edmonton, Alberta, from 1947 to 1953, when he left to go to Halifax.

Dalhousie's dental building

While Dean at Dalhousie, Dr. McLean was credited with building a dental building, a school of dental hygiene, and a staff that would take the dental profession into the 20th century.

During that period, he also served as national president of the Canadian Red Cross and as chairman of the board for Halifax's Neptune Theatre.

In 1985, Dr. McLean was named Dean Emeritus of Dalhousie University's Faculty of Dentistry.

He is the second recipient of the Dr. Philip S. Christie Award. The first dentist so honored was Dr. Isaac K. Lubetsky.



Dr. James D. McLean receives the Dr. Philip S. Christie Award from the late Dr. Christie's widow, Barbara. (Photo: Courtesy of the Nova Scotia Dentist)

PRECAUTIONS NEEDED WHEN TREATING CATARACT PATIENTS

According to a recent Health and Welfare Canada release, some dental light sources have potential for eye damage in some cataract patients.

In a letter to the dental press, Dr. A.J. Liston, Assistant Deputy Minister of the Health Protection Branch of Health and Welfare Canada stated that some high intensity dental illuminators and restorative-curing light sources may damage the retina in some cataract patients. In some cases even brief exposure could be harmful.

The text of the letter and its recommendations are printed here for the information of our readers.

It is estimated that over 100,000 Canadians have had cataract surgery to remove the natural crystalline lens of the eye (aphakes). Such surgery, once limited almost exclusively to the elderly, is now being carried out with increasing frequency in younger patients. The retina of the eye in aphakes is unprotected from certain types of harmful blue and ultra-violet light (1-4).

Many aphake dental patients have contact lenses or implanted intraocular lenses which may not afford adequate attenuation of intense light sources that can permanently damage the retina (5-6). Dentists often may not recognize that patients have had cataract surgery.

It is recommended that dental professionals determine whether their patients have had cataract surgery before dental treatment is provided. A specific question should be inserted in the health questionnaire given to new patients. The eyes of a vulnerable patient should be covered either by eye shields or safety glasses with adequate opacity and complete side vision protection.

For further information please contact the Director, Bureau of Medical Devices, Environmental Health Centre, Tunney's Pasture, Ottawa, Ontario, K1A 0L2.

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CFDE ANNOUNCES CHANGES ON BOARD OF TRUSTEES

J. Fred Reid, DDS, of North Vancouver, is the new chairman of the Canadian Fund for Dental Education's Board of Trustees.

Other changes announced by the CFDE Board of Governors are the naming of new trustees Dr. G. Stuart Foster of Calgary, as trustee for Alberta; Dr. T. Edward Ramage of Vancouver, as trustee for British Columbia; Dr. Gordon W. Thompson, Edmonton, Alberta, as trustee representing dental education, and Mr. A. Jardine Neilson, CDA, Ottawa, as ex-officio trustee.

Past CDA president

Dr. Reid is a past president and an Honorary Member of the Canadian Dental Association. He was President of the British Columbia Dental Association in 1968/69

and a member of the federal government's Wells Commission on Dental Auxiliaries from 1968 to 1970. He is a Fellow of the International College of Dentists. He has been a CFDE trustee since 1980.

He served with the Royal Canadian Dental Corps from 1940 to 1945 and as District Governor of Gyro Clubs International in 1970/71.

Dr. Foster is a native of Calgary and has practised dentistry in that city since his graduation in 1954.

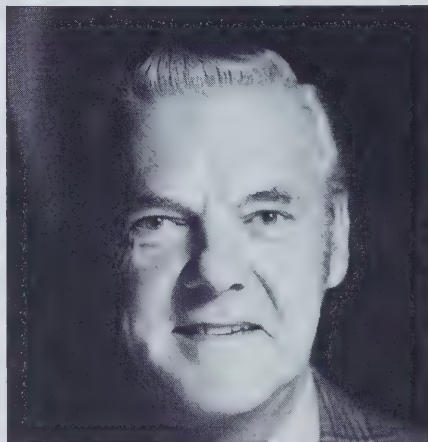
He is a past president of the Calgary & District Dental Society and the Alberta Dental Association.

His hobbies include hunting, fishing and curling.

Dr. Ramage has been in private practice in Vancouver since 1958 and he has specialized in prosthodontics since 1982.

He has held numerous positions in the Vancouver and District Dental Society, the British Columbia Dental Association and the College of Dental Surgeons of British Columbia, culminating in the presidency of the College from 1979 to 1981.

Dr. Ramage is a past Governor and Executive Council member of the Canadian Dental Association and served as Chairman of the CDA National Convention in 1983.



Dr. J. Fred Reid, New Chairman



Dr. T. Edward Ramage



Dr. G. Stuart Foster



Dr. Gordon W. Thompson

He is a member of several professional organizations and is a Fellow of both the International and American Colleges of Dentists. His outside interests are skiing (snow and water) and scuba diving.

Dr. Gordon Thompson is Dean of the Faculty of Dentistry, University of Alberta. He is a graduate of that university and pursued Masters and PhD programs at the University of Toronto, where he joined the academic staff to become Assistant Dean from 1973 to 1975, and Associate Dean from 1975 to 1978.

He is Immediate Past President of the Association of Canadian Faculties of Dentistry and a member of CDA's Council on Education and Accreditation and Dental Admission Test Committee. He is a member of the World Health Organization's Expert Advisory Panel on Oral Health and a Fellow of the Academy of International Dental Studies, the American and International Colleges of Dentists as well as the Royal College of Dentists of Canada.

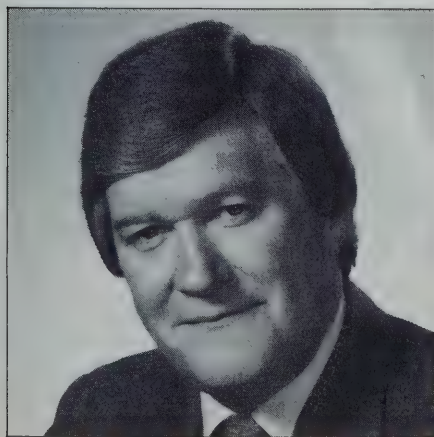
Mr. Neilson is Executive Director of the Canadian Dental Association. He serves in an ex-officio capacity on the CFDE Board of Trustees. (Details of Mr. Neilson's career were released in JCDA Vol. 51: No. 7, p 469.)

Mr. Neilson assumed office with the CDA following a distinguished career in the federal public service.

Retiring trustees

The CFDE's retiring trustees are Dr. David K. Peters, Dr. Donald E. Upton and Dr. Alain Vaillancourt. Drs. Upton and Vaillancourt served as trustees for six years and Dr. Peters served as a trustee for three years and as Chairman of the Board for the last three years of his appointment.

An official of CFDE noted recently that "the profession is deeply indebted to these three gentlemen for their outstanding contributions to dental education and research in Canada."



A. Jardine Neilson

HOLDING YOUR MORTGAGE IN YOUR RSP

Peter B. Dennett

Director of Retirement Services, CDSPI

January 1984, brought about a change in legislation by the Department of National Revenue allowing an individual to hold his own mortgage in a self-directed RSP.

It sounds attractive and certainly gives you a warm feeling that you can hold your own mortgage and pay yourself. It can, however, be questionable as to whether this is the best thing to do and requires considerable calculations to determine whether it is in your best interest.

To be eligible, your mortgage must meet three criteria:

- The home must be located in Canada.
 - The mortgage must be administered by an approved National Housing Act lender, and insured by Canada Mortgage and Housing Corporation, or a private insurer such as the Mortgage Insurance Company of Canada.
 - The mortgage must be arranged at prevailing market rates and terms similar to those available in the marketplace.
- This means that you cannot arrange a 20-year mortgage at a 30% rate, or double the value of your home in order to build up your retirement fund. You also cannot establish a mortgage at an interest rate of 1% or 5% to ease your own cash flow.

Similar to any self-directed RSP, one of the key questions you must ask yourself is "Is the cost worth it, and do I have the time to monitor the plan?"

Putting a mortgage of less than \$25,000 in a RSP does not make sense under any circumstances, since the administration costs can eliminate any advantage over standard investments.

Costs involved include mortgage appraisal fees (normally .2% of the mortgage principal, minimum \$175), legal fees (1% of the value of the mortgage), mortgage insurance fees (1% of the appraised value), and the RSP mortgage setup fee of usually \$100. There are also annual carrying costs of anywhere from \$300-\$500 that represents a mortgage administration fee as well as the self-directed RSP fee.

Most of these costs are paid outside of the Plan, with only the RSP annual administration fee deductible for tax purposes.

For your RSP to out-perform a standard term deposit investment, the interest rate would have to be 1.25% or 1.50% higher than the Term Deposit rate. Then, over the life of the investment, you will accumulate a larger amount for retirement income if you monitor the RSP and invest, each month, any additional cash resulting from the repayment of the mortgage, at interest rates

equivalent to Term Deposit rates in the marketplace.

If you have \$40,000 in a RSP, and your home is mortgage free, you could use a RSP mortgage as a source of borrowing. If you use the proceeds of the loan from your RSP to earn business or investment income, the mortgage interest is tax deductible. This could be a very inexpensive way of borrowing.

On the other hand, the major drawback of such a RSP is the lack of flexibility. Once again, the RSP imposes a deadline of age 71 on your entire Plan. Also, if you wish to take advantage of some high annuity rates prior to that date, the lock-in of funds in the mortgage may not allow you to do so.

Another factor to consider is that you are locking-in your funds at one specific rate in one particular investment and, therefore, limiting yourself in applying some funds to other investments should yields and rates prove more attractive.

If you are prepared to take the time, accept the risk and pay the cost, the Mortgage RSP can be worthwhile. On the other hand, if you wish trouble free investments, with attractive returns and no hidden costs, consider the CDA RSP as your choice.

Your expertise is dentistry. Our expertise is RSP's. For further information on the various investment options that we offer, call the Director of Retirement Services at CDSPI at the following toll-free numbers:

1-800-268-5418 Western Canada,
Atlantic Canada,
Ontario Area
Code 807
1-800-268-3411 Québec and Ontario,
except Area Code 807
497-7117 Metro Toronto

DR. HAL E. LEYLAND HONORED FOR SERVICE TO DENTISTRY AND THE COMMUNITY

Dr. Hal E. Leyland, a DDS graduate of the University of Toronto in 1943, has, in his lengthy and colorful career in dentistry, developed a multitude of friends and admirers.

A large gathering of such individuals was on hand recently to honor him on his retirement, after 25 years of dental and community service to the people of the Bahama Islands.

Dr. Veronica Williams McIver, President of the Bahama Islands Dental Association, presented Dr. Leyland with a plaque at the banquet and "toast" where guests included Dr. C.W. Fain Jr., Immediate Past-President of the American College of Dentists. Dr. Fain and a colleague had made a cash donation to the educational foundation

of the American College of Dentists in Dr. Leyland's name.

Some of the warmest tributes were paid in recognition of Dr. Leyland's work in establishing Kiwanis dental health units in previously disadvantaged outer islands of the Bahamas.

Dr. Leyland has been an enthusiastic participant in Kiwanis Club projects since he practised in Etobicoke, in Metropolitan Toronto, in the 1950s.

Served in Dental Corps

During his final year in dentistry at the University of Toronto, Dr. Leyland joined the Royal Canadian Dental Corps and served until 1946.

He then established a private practice in general dentistry in Etobicoke and practiced until the mid 1950s, when he went to Florida.

Dr. Leyland became active in the Florida Dental Society and from 1955 to 1961, served as Executive Secretary of that organization.

To Bahamas in 1961

He went to the Bahamas in 1961 and was based at Nassau. His service soon extended to the people of New Providence and the Family Islands. With the support of fellow Kiwanians, many dental health units began to appear in more remote areas where they had been sorely needed. Dr. Leyland spearheaded their efforts.

Dr. Leyland was pleased that the organizers of the retirement banquet had arranged to have a special guest attend — Mrs. Kim Foster Pyfrom, who was his first dental assistant 23 years ago.

Officers and members of the Royal Bahamas Police Reserve, Kiwanis members and the Pilot Club of Nassau, along with friends, neighbors and recent patients, were on hand as a tribute to his professional and humanitarian service.



Dr. C.W. Fain Jr., right, Immediate Past-President of the American College of Dentists, pays tribute to Hal Leyland, DDS, FADC, FRSM, for his achievements on his retirement from general dental practice. (Photo: Courtesy of Dr. C.W. Fain Jr., Daytona Beach, Florida).



Dr. Ralph Barolet

CARIDEX WON'T ELIMINATE DRILLING AND ANAESTHETICS DR. BAROLET TELLS PRESS

People who fear the pain and drilling involved in the treatment of dental caries have had their hopes raised by media accounts of a liquid now approved in the United States which is reported to break down decay so it may be "rubbed off" without drilling.

In a recent interview with an Ottawa newspaper reporter, Dr. Ralph Barolet, Chairman of CDA's Council on Dental Materials and Devices and the Committee for Consumer Product Recognition, debunked those fond expectations and said he's not convinced the new product will eliminate drilling or anaesthetics to any significant extent.

"It's not going to do much more than we can do already," Dr. Barolet told the reporter. "We will often have to cut the tooth open to expose decay. If the cavity is under the tooth enamel, it won't work."

He explained further that the procedure will be an expensive one. The liquid, he said, costs between \$10 and \$12 a vial and what is not used within an hour must be discarded. Also, Dr. Barolet said, a \$1,000 pump mechanism is required to apply the Caridex to the surface of the offending tooth.

For these reasons, Dr. Barolet didn't think the product "will be given as rapid an acceptance by the dental profession as one might think."

The process has yet to be submitted to the health protection branch of Health and Welfare Canada for approval.

Approved by the ADA

Caridex was developed about 15 years ago by two Tufts University researchers,

Dr. Joseph Kronman, an orthodontist and Dr. Melvin Goldman, a specialist in root canal dentistry. It received the approval of the United States Food and Drug Administration in July, 1984 and in November of the same year, the American Dental Association's seal of approval was granted.

The substance has been licensed to the National Patent Development Corporation in the United States, which will market it in that country through a subsidiary, National Patent Dental Products Inc., of New Brunswick, New Jersey.

The two developers will get royalties on the sales of their invention.

Caridex was displayed at the Yankee Dental Congress in Boston, Mass., in January.

FDI PUBLISHES REVISED DENTAL LEXICON

The FDI has just recently published more than 40,000 multilingual terms in a revised version of the Dental Lexicon, in four languages (English/American, French, German and Spanish).

Some terminology relating to old techniques have been deleted and about 4,000 new ones have been included.

An experienced multilingual team has worked under the direction of Professor L.J. Baume (Switzerland), a Past-President of the FDI and the founder of the Intercommission Group on Uniform Definitions of Dental Terms (INCOGUDET).

The original publication, supplies of which have now been exhausted, was published in 1966, and reflected the outstanding work of Professor P.O. Pedersen (Denmark), also a Past-President of the FDI. The original work was six years in preparation.

New entries stem from the official vocabularies of the World Health Organization (WHO) and its Application of the New International Classification of Diseases to Dentistry and Stomatology, from the latest lists of definitions of dental terms edited by the International Organization for Standardization, Technical Committee 106/Dentistry, Working Group 3 (Terminology) and from the recent vocabularies of the American specialty boards on endodontics, implantology, orthodontics, as well as recent dental and multilingual medical dictionaries.

The Dental Lexicon can be purchased from the FDI at:

64 Wimpole Street,
London, W1M 8AL, UK
at \$45 U.S. (includes postage and packaging)
Supporting Members' special price is \$30 U.S.

(From the "FDI Newsletter, No. 144, 1985)

CDA CONVENTION AUGUST 24/27 HALIFAX '86



CONGRÈS DE L'ADC 24-27 AOÛT HALIFAX '86

CONVENTION '86 CHAIRMAN ENSURES MEMORABLE EVENT

When the tenacity of a Scotsman, the resourcefulness of an American and the efficiency of a Canadian are combined in one person, his endeavors cannot be anything but successful.

Dr. William Ian Vogan, a Halifax periodontist and Associate Professor of Periodontics at Dalhousie University, is general chairman of the planning committee for CDA Convention '86 in Halifax, being held August 24-27 next.

Born in Dundee, Scotland, in 1943, Dr. Vogan began to acquire his multi-national attributes at an early age. As a young boy, he moved with his family to California and spent several years there.

BDS at St. Andrew's

When he returned to Scotland as a youth, he attended Lawside R.C. Academy and on graduation in 1961, embarked on a career in dentistry. He received his BDS degree from St. Andrew's University in 1968.

Seeking graduate training in a specialty, he once again returned to familiar territory, the University of Southern California, where he received his Certificate in Periodontics, in 1971. Further studies led to a DDS degree from the same university, in 1972.

Dr. Vogan's academic achievements led to his appointment as Senior House Officer, Periodontics, at Dundee Dental School in 1968-69, and as House Surgeon, Oral Surgery, at the Dundee School during the same period.

At the University of Southern California (USC) he became a part time clinical instructor from 1969 to 1971, when he was appointed as Assistant Professor of Periodontics. Dr. Vogan was named Director of Undergraduate Periodontics at USC in 1973 and served in this capacity until 1975, when he was appointed Associate Professor of Periodontics at Dalhousie University, in Halifax.

Dr. Vogan served as Director, Post-Graduate Periodontics, at Dalhousie from 1978 to 1982. In 1977 he became Visiting Lecturer, School of Dentistry, New York University, and continues in this capacity.

Among his several honors and awards is

a Post-Doctorate Fellowship in Cellular and Molecular Biology, 1972-73, membership in the Pierre Fauchard Society, 1978, and a Fellowship in the Academy of Dentistry International, 1984.

Service with CDA

Dr. Vogan has for some time been familiar with, and an active supporter of, the major objectives and concerns of the Canadian Dental Association. Most recently, he was the organizer and chairman of the CDA Manpower Symposium held in Toronto last fall. He has also served as a member of the CDA Committee for Consumer Product Recognition and CDA's Council on Ethics.

At Dalhousie, Dr. Vogan is a member of the Research Committee, School of Dentistry.

Dr. Vogan has a staff appointment as Consultant-Periodontics, at Camp Hill Hospital, Halifax, and a courtesy staff appointment with the Aberdeen Hospital, New Glasgow, Nova Scotia.

He is a member of the American Academy of Periodontology, the Canadian Academy of Periodontology, the International Association for Dental Research, the Society of Dental Specialists of Nova Scotia, the Canadian and Nova Scotia Dental Associations and the Atlantic Society of Periodontology.

Research interests

Dr. Vogan's areas of interest and activity in research range from clinical periodontics, wound healing mechanisms and biomechanics of periodontal disease and therapy, to the role of cellular interactions in periodontal disease. He was the principal investigator in "The Biomechanics of Osseous Surgery" which was funded (\$3,850) in October 1974, by the California Dental Association. He has received two NIDR research awards, in 1970-71 and 1972-73. In two other NIDR projects he has been a co-investigator. One, "Molecular Nature of Gingival and Mucosal Collagen" was approved for funding (\$243,713) in December, 1974.

He has presented courses internationally in such widespread geographic locations as Honolulu and Nice, France, and his papers have been published in such prestigious journals as the British Dental Journal, the

Journal of Dental Research and the Journal of Periodontal Research.

Maintains private practice

Dr. Vogan maintained a private general practice in Dundee, Scotland, until he left for California, in 1969. In 1971, he opened a private practice limited to periodontics, in Los Angeles, continuing until 1972. Since 1975, he has conducted a private practice in Halifax, limited to the speciality of periodontics.

Keeps physically fit

He is a believer of the benefits of physical fitness and one aspect of his regimen is daily runs. In the past, he has been involved in marathons. He participated in the Halifax Marathon about six years ago.

Dr. Vogan also enjoys golfing.

Mrs. Vogan-spouses' program chairman

Dr. Vogan's wife Margaret, very accomplished in her own right, is serving as chairman of the Convention '86 Spouses' Program planning committee.

The couple have one son, Drummond Grant, 14, and a daughter, Kendal Christina, 10.



Dr. Ian Vogan

CONVENTION '86 SCIENTIFIC PROGRAM AND COMMERCIAL EXHIBITS

Theme: "Looking to the Future"

Date	Hour	Subject Area	Speakers
Monday, August 25	9 a.m. to 6 p.m.	Exhibits Open	
	10 a.m. to 12 noon	Grieve Memorial Lecture Periodontics and Orthodontics Endodontics Pedodontics	Dr. Frank Shamy Dr. Norman Boucher Dr. Harvey Levitt Dr. Phillip Mallo Dr. Michael Cohen
	Afternoon		
	2 p.m. to 4.30 p.m.	Periodontics and Orthodontics Dental Research — Future Trends Pharmacotherapeutics Audiovisuals in Dentistry Projected Clinics	Dr. Norman Boucher Dr. Harvey Levitt Dr. Harold Slavkin Dr. Trevor Chin Quee Mr. Bruce Moxley
Tuesday, August 26	9 a.m. to 6 p.m.	Exhibits Open	
	9 a.m. to 12 Noon	Periodontics Periodontal Prosthesis Oral and Maxillofacial Surgery Practice Development Symposium and Health Screening Update	Dr. Jay Seibert Dr. David Garber Dr. David Precious Mr. Wilson Southam Dr. Patrick Blahut
	Afternoon		
	2 p.m. to 4.30 p.m.	Periodontics Periodontal Prosthesis Practice Development Dental Biomaterials Maxillofacial Prosthetics	Dr. Jay Seibert Dr. David Garber Mr. Wilson Southam Dr. Derek Jones Dr. Robert Hoar Dr. Robert Brygider
Wednesday, August 27	9 a.m. to 12 Noon	Table Clinics Removable Prosthodontics Dental-Legal Implications Hepatitis and AIDS Dental Manpower — Status Report	Dr. Robert Chapman Mr. Lorne Rozovsky Dr. John Hardie Dr. Ian Vogan

ALL SCIENTIFIC SESSIONS BEING HELD IN TRADE AND CONVENTION CENTRE
EXHIBITS ARE IN METRO CENTRE

CONVENTION '86 SOCIAL PROGRAM

Date	Hour	Nature of Event	Location
Saturday, August 23		Pre-Convention Harbour Sail	Halifax Harbour
Sunday, August 24	7 p.m.	CDHA Fun Run Registration Party/ Street Party Format	Locale TBA World Trade & Convention Centre
		Early morning aerobics/ runners	
Monday, August 25	8-9:30 a.m.	Opening Breakfast Guest Speaker from the True North Syndicate	
	noon	Walkabout Luncheon — visit exhibits	World Trade & Convention Centre
	8 p.m.	The President's Ball	Sheraton Halifax Hotel
		Early morning aerobics/ runners	
Tuesday, August 26	12 Noon	President's Luncheon	World Trade & Convention Centre
	Evening	"Lobster Bash" — informal event — entertainment	Sportsplex—Dartmouth
Wednesday, August 27		Early morning aerobics/ runners	

CDA 1986 CONVENTION: AN INVITATION

Dear Colleague:

In the midst of a Canadian winter it may be considered cruel and unusual punishment to talk of warm summer days with gentle ocean breezes, and when the conversation expands to include images of succulent lobsters drenched in drawn butter or clams, oysters, and mussels accompanied by piping hot freshly baked rolls followed by homemade pies, I have to admit some may be unable to bear the strain. But it has to be said, you can expect nothing less, when you come to Halifax in August for the 1986 C.D.A. Convention.

Our committee promises you all the down east hospitality you can handle. Our program includes speakers of national and international stature who will ensure scientific sessions of the highest quality — varied but linked around our central Convention theme of "Looking To The Future" — a future that is increasingly impacting on our professional and personal lives.

Halifax is an ideal place to talk of change in future planning. Our city has been transformed in the last decade, as many of you will know, into a dynamic modern urban centre which has rapidly become a major convention venue. It's unique blend of traditional charm and modern convenience coupled with easy access to some of Canada's most beautiful and varied scenery, makes it ideal for combining business and pleasure. Our invitation is extended to all members of the dental family; practitioners, both generalist and specialist, dental hygienists, dental assistants, office personnel, technicians, and those involved in the dental supply industry.

Our spousal and children's programs have been carefully designed to ensure fun and interest for all who attend. We think you'll agree the Convention in August would be a wonderful component in a family vacation in Canada's Ocean Playground.

Our Social Program reflects a total commitment to quality but as always with that special down east flavor. Our menus and entertainment will be goodwill ambassadors that will be long remembered when our delegates have returned home. Even as I write Alumni and Class Reunions are being planned around the Convention: — what a perfect time and place to meet friends, colleagues, and classmates once more! The most convenient hotels linked with the Convention Centre will, of course, be the first to be booked and I would strongly suggest that early registration is the best way to ensure getting the most out of your visit to Halifax for the convention.

We are ready! The only ingredient miss-

ing is you. So cast off the winter blues and plan to come down east this summer. Make it a family affair — join us in the fun of the present while looking towards the future.

*Dr. W. Ian Vogan
Chairman
Organizing Committee
C.D.A. Convention 1986
Halifax, Nova Scotia*

SPOUSES' COMMITTEE CHAIRPERSON IS A WOMAN OF DISTINCTION

Mrs. Margaret R. Vogan, chairperson of the spouses' program planning committee for Convention '86, Halifax, is a woman of impressive accomplishments.

A graduate of the Dundee College of Education, Scotland, she has taught in elementary schools in Scotland and Los Angeles, California, has been president of a Parent-Teachers' Association, has been managing editor of a magazine, is president of her own commercial decorating and design company, is an art consultant and owner of a retail (exclusive lingerie) business.

She has been deeply interested in the work of the Junior League and recently was appointed Co-chairman of the Federation of Junior Leagues of Canada.

A supporter of various facets of the arts community in Atlantic Canada, Mrs. Vogan

is currently a member of the board of Symphony Nova Scotia and chairman of "Friends of the Symphony."

She too, is endowed with Scottish tenacity. A Junior League colleague wrote of her: "Margaret is able to work well with others even at very demanding, stressful times. An example of this occurred. . . . when our community symphony terminated. Margaret, along with other dedicated members of the community worked countless hours to save the orchestra. They have accomplished this feat."



Mrs. Margaret R. Vogan

Mrs. Vogan has researched probation regulations and criminal justice, has organized seminars for engaged couples, organized school board events and worked at fund-raising.

As an experienced teacher, Mrs. Vogan has followed her own example by industriously broadening her own horizons in areas of study ranging from public relations and interviewing skills to leadership styles and parliamentary procedure to business management and cultural society leadership roles and responsibilities.

MEMBERS OF HALIFAX '86 CONVENTION COMMITTEE

In addition to Convention '86 planning committee chairman, Dr. Ian Vogan and spouses' committee chairperson, Mrs. Margaret Vogan, six other persons are busily finalizing plans for all aspects of the event.

Dr. Gary Foshay is chairman of the scientific program details; Dr. Phil Cyr is chairman of the group arranging social functions; Dr. Terry Ingham is in charge of local arrangements and Dr. Andrew Thompson is very active in publicity and promotion, closely liaising with the editors of this Journal. All are from Halifax.

Miss Terry Mitchell represents the Canadian Dental Hygienists' Association on the committee and Miss Susan Mader is the member representing the Canadian Dental Assistants' Association.

CONVENTION '86 SPOUSES' PROGRAM

Date	Hour	Nature of Event	Location
Saturday, August 23		Preconvention Harbour Sail	
Sunday, August 24	9 a.m.	CDHA Fun Run	
	12 noon to 9 p.m.	Registration	
Sunday, August 24	7 p.m.	Registration Party	World Trade & Convention Centre
Monday, August 25	7 a.m.	Early Morning Aerobics	
	8-9 a.m.	Opening Breakfast	
	11.00 a.m.	Craft & Market and Food Fair	
	11.30 a.m.	Luncheon and Fashion Show to	
	2.30 p.m.		
	3 p.m. to 5 p.m.	Walking Tour Downtown Halifax	
Tuesday, August 26	7 a.m.	Early Morning Aerobics	
	9 a.m. to 4.30 p.m.	Annapolis Valley and South Shore Tours	
Wednesday, August 27	7 a.m.	Early Morning Aerobics	
	9.30 a.m. to 12 Noon	Seminars	

C.D.A. SPOUSES AND CHILDRENS PROGRAMS

Our hospitality suite will be open at all times to welcome and assist you. On Monday our program features a food fair, craft market and fashion show. For those with energy left — a guided walking tour of Historic downtown Halifax.

Tuesday we will leave the city for the charming picturesque countryside of Nova Scotia, with tours to the Annapolis Valley (includes a visit to Prescott House and tour of the Grand Pré Winery) or the South Shore of Nova Scotia.

Wednesday we will conclude our program with a series of seminars with topics of current interest. To ensure that all our delegates will have the opportunity to participate fully in our program we are offering something new and different: An exiting, fun-filled, supervised program for children ages 7-15 years which includes a spectacular sports day, a tour and lunch at historic Citadel Hill, Double-Decker Bus city tours, a magic show, films and much, much more.

For children ages 2-6 years a list of licensed Metro day care facilities will be made available.

ADIDAS CDHA FUN RUN/WALK

Sunday, August 24/86

Registration Deadline Date: August 5, 1986

Entry Fee — \$8.00/Person

(Includes fun run T-shirt)

NAME (S) _____

ADDRESS _____

T-SHIRT SIZE:

☐ Small ☐ Medium ☐ Large

Send completed form and cheque payable to:

**FUN RUN CO-ORDINATOR
P.O. Box 3593
Halifax South Postal Station
Halifax, Nova Scotia
B3J 2J0**

1986

CDA NATIONAL CONVENTION

AUGUST 24-27

HALIFAX, NOVA SCOTIA

REGISTRATION FORM

Name: Miss/Mrs/Ms _____
Dr/Mr _____ (please print for name tags)

Address: _____

City _____ Prov _____ Postal Code _____

Telephone No.: _____

Name of Spouse, if registered: _____

Name and Age of Children, if registered (see below)

Name _____ Date of Birth _____

CDA PRE-CONVENTION SOCIAL EVENT Totals

SATURDAY, AUGUST 23, 1986

Harbour Sail: Hosted by local area Dentist/Sailors

Limited registration

\$20.00 per person _____

CONVENTION REGISTRATION

AUGUST 24-27, 1986

NOTE: Early registration will help in securing the hotel reservation of your choice. It can also mean savings in air fare, so make your plans early.

Please complete appropriate category

- ☐ **DENTIST:** General Practitioner _____ (Specialty Group)
Specialist _____ (Specialty Group)
- ☐ CDA MEMBER/Foreign Dentist to June 15 after June 15
\$325.00 \$375.00 _____
- ☐ Non-Member \$375.00 \$425.00 _____

*Includes access to scientific sessions and exhibits, opening breakfast, two lunches, Sunday evening registration party and Tuesday evening Lobster Bash, daily exercise program - aerobics/running.

☐ **DENTAL SPOUSE** \$140.00 (each) _____

*Includes access to scientific sessions and exhibits, Sunday evening registration party, Monday Fashion Show and Lunch, Tuesday Tour, and Tuesday evening Lobster Bash, Halifax walking tour, Wednesday morning Seminars, daily exercise program - aerobics/running seminars.

Indicate Tour Preference: South Shore _____
Annapolis Valley _____

☐ **CHILDREN** \$60.00 (Each) _____

Ages 7-15 inclusive

Deadline Date: June 15 - Limited registration

Includes a sports day, Citadel tour and lunch, double decker bus tour of Halifax, magic show, films.

☐ **HYGIENIST** to June 15 after June 15

☐ Full registration _____

☐ CDHA Member \$125.00 \$150.00 _____

☐ Non-Member \$250.00 \$300.00 _____

*Includes access to scientific sessions and exhibits, daily aerobics, Sunday Harbour Cruise (pre-registrants only), Sunday registration party, Monday opening breakfast, Monday CDHA President's luncheon and Citadel Hill candlelight tour, Tuesday Lobster Bash, Wednesday brunch and learn.

☐ **Daily Registration** to June 15 after June 15

☐ CDHA Member \$ 55.00 \$ 65.00 _____

☐ Non-Member \$110.00 \$130.00 _____

Day(s) required _____

*Includes that day's scientific sessions and exhibits only.

☐ **CDHA SPOUSE/GUEST** \$60.00 _____

*Includes access to scientific sessions and exhibits, Sunday Harbour Cruise (pre-registration only), Sunday registration party, Monday CDHA luncheon and Monday evening "Candlelight Tour of the Citadel".

☐ **DENTAL ASSISTANT/OFFICE PERSONNEL**

☐ Full Registration to June 15 after June 15

☐ CDAA Member \$125.00 \$145.00 _____

☐ Non-Member \$155.00 \$175.00 _____

*Includes access to scientific sessions and exhibits, daily aerobics, Sunday registration party, Monday President's Luncheon, Tuesday Fashion Show and Luncheon, Wednesday Breakfast and Harbour Tour.

☐ **CDAA DAILY REGISTRATION**

☐ CDAA Member \$55.00 _____

☐ Non-Member \$65.00 _____

*Includes that day's scientific sessions and exhibits only.

☐ **CDAA SPOUSE/GUEST** \$50.00 _____

*Includes access to exhibits, and Sunday evening registration party.

☐ **STUDENTS**

- ☐ Dental
☐ Hygiene

**Includes scientific sessions and exhibits only.*

Complimentary
Complimentary

☐ **TECHNICIAN/OTHER**

to June 15 after June 15

Please specify _____

\$ 50.00 \$100.00 _____

**Includes scientific sessions and exhibits, and Sunday evening reception.*

Monday's Walk About Lunch	\$ 8.00 per person	_____
Tuesday President's Lunch	\$25.00 per person	_____
Tuesday Night's Lobster Bash	\$45.00 per person	_____
CDA Spouses' Fashion Show and Lunch	\$30.00 per person	_____
Valley Tour	\$35.00 per person	_____
South Shore Tour	\$35.00 per person	_____
CDHA Monday Candlelight Citadel Tour	\$10.00 per person	_____
CDHA Wednesday Brunch and Learn	\$20.00 per person	_____

TOTAL AMOUNT OF CHEQUE ENCLOSED: _____

**Not included in registration package*

ADDITIONAL SOCIAL TICKETS

Sunday Evening Registration Party	\$35.00 per person	_____
Monday Opening Breakfast	\$12.00 per person	_____
*Monday President's Ball	\$50.00 per person	_____

CANCELLATION POLICY: Cancellations are accepted in writing before July 15, 1986, for a full refund. Requests after that date are subject to a 25% administrative charge.

**Note: Please duplicate and complete this form if more than one registration is required.*

Make cheque payable to the CANADIAN DENTAL ASSOCIATION, and mail to:

1986 CDA Convention
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6

CALL THE PRESIDENT

CDA's President, Dr. Bradley Holmes, would like to hear your concerns, comments, questions and opinions. He is holding a Call the President Day April 2, 1986 and the lines will be open from 8:30 am to 4:30 pm, Eastern Standard Time. Call Dr. Holmes on any issue at CDA Headquarters, 613-523-1770, on April 2, 1986.

Dr. Holmes welcomes your comments on issues facing dentistry today; such as manpower, the busyness problem and government relations. Call Dr. Holmes on April 2 and express your opinions and concerns about any aspect or function of CDA, including the Dental Awareness Program, membership, the Journal, fluoridation, accreditation, dental education or even the CDA's Resource Centre. Plaudits or pundits, CDA's President wants to talk to you!!



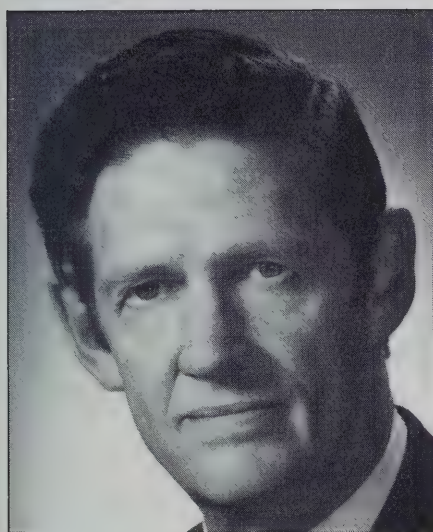
COLLECT
April 2, 1986
613-523-1770
8:30 to 4:30 (EST)

TÉLÉPHONEZ-LUI
À FRAIS VIRÉS
le 2 avril 1986,
de 8h30 à 16h30 (HNE)
613-523-1770

VOTRE PRÉSIDENT À L'ÉCOUTE

Le Dr Bradley Holmes, président de l'ADC, désire que vous lui fassiez part de vos problèmes, de vos commentaires, de vos questions et de vos opinions. Le 2 avril prochain, de 8h30 à 16h30, heure normale de l'Est, il attendra vos appels au siège social de l'ADC où vous pourrez l'atteindre en composant (613) 523-1770.

Le Dr Holmes sera particulièrement heureux de recueillir vos commentaires touchant les questions de l'heure en médecine dentaire, tels les ressources en personnel, le manque de clientèle et les relations gouvernementales. Faites-vous donc un point de lui téléphoner le 2 avril prochain. Dites-lui ce que vous pensez au sujet de tout ce qui touche l'ADC, y compris le Programme de sensibilisation dentaire, la fluoruration de l'eau, les programmes d'agrément, l'enseignement dentaire ou même le Centre de documentation. Que ce soit pour louer ou blâmer, vous trouverez une oreille attentive.



Dr. William R. Thompson

Dr. William R. Thompson, past-President of the Canadian Dental Association for 1982 was recently honoured by the American Dental Association.

During the ADA Annual Session in San Francisco in November 1985, Dr. Thompson was made an Honorary Member of the American Dental Association. Honorary Membership is conferred upon individuals who have made outstanding contributions to the art and science of dentistry.

Born in Campbellford, Ontario, Dr. Thompson had a distinguished career in the Canadian Forces Dental Services, before being elected CDA President in 1982. Now retired from the Canadian Forces, Dr. Thompson resides in Trenton, Ontario.

L'Association des chirurgiens dentistes du Québec recently elected some new members to their Board and a new Executive for 1986.

Board members include Drs. Claude

Larose (Montreal), Paul Germain (Verdun), Chantal Lafrenière (Quebec), Guy Rostenne (Repentigny), Elliot Goldenberg (Montreal), Barry Dolman (Montreal), Antonio Tomasino (Montreal), Jacques Durocher (Laval), Jean Beauchemin (Montreal), Gilles Dubé (Laval) and Gilles C. Côté (Montreal).

The Board of the Association also set its priorities for the new year. These include practice promotion, financial planning, gerontology and collaboration between the public and private sectors.

The Executive of the Association was also elected for 1986. Dr. Claude Chicoine was re-elected as President, Dr. Gilles Dubé was elected as first assistant director, Dr. Gaetan Duquette as second assistant director and Dr. Pierre Corbeil as Director. Counsellors include Drs. Henri Marsolais, Yves Giguère, and Majella Gosselin. Dr. Daniel Montminy was elected as Treasurer.

Discussion of concerns about AIDS will reach the international level June 23-25 at an International Conference scheduled in Paris, France, at the Palais des Congrès there.

The conference will cover topics such as virology, molecular biology, animal models, clinical aspects, pediatric AIDS, African AIDS, therapy, diagnostics, serology, epidemiology, public health and psychosocial implications. Abstracts were called for a February 1 deadline.

Further information is available from Jean-Claude Gluckman, Faculté de médecine, Pitié-Salpêtrière, 91 Boulevard de l'Hôpital, 75634, Paris CEDEX 13, France. The telephone number is (1) 45 70 27 02.

Dr. Franklin Pulver, Assistant Professor of Paedodontics, Faculty of Dentistry, University of Toronto, has been elected President of the Canadian Academy of Pediatric Dentists. He is also the chairman of a



Dr. Pulver is seen discussing features of a protective helmet for young Canadian hockey players, with future hockey coaches. (Photo by Clarence Metcalfe)

committee planning the 11th Congress of the International Association of Dentistry for Children (IADC), which will be held in Toronto's Harbour Castle Hilton Hotel June 7-11, 1987.

Dr. Pulver, along with Dr. Arthur Wood, an Islington, Ont., paedodontist, serve as dental consultants, appointed by CDA, to the Canadian Standards Association technical committee concerned with the development and improvement of protective facial devices for young Canadian sports participants.

Dr. Pulver has also been named as a consultant to the Federation Dentaire Internationale (FDI) Working Group No. 7 — Prevention and Dental Protection During Sporting Activities of the Commission on Dental Products.

Two Ontario dentists are seeking out their colleagues who wish to join with them in making a statement against nuclear war.

Drs. Jim Marko and Peter Copp recently

requested that this Journal publicize their efforts to join with their physician counterparts in making such a statement.

Both dentists are members of the Physicians for Social Responsibility (PSR) a Canadian affiliate of International Physicians for the Prevention of Nuclear War. Both organizations are non-profit.

"It would be consistent with our role as health practitioners to join with physicians to adopt a unified stand indicating our commitment to the prevention of nuclear war," Dr. Marko told the Journal.

For more information about the PSR, contact: Physicians for Social Responsibility, Toronto and National Office, The Banting Institute, 100 College St., #534, Toronto, Ont. M5G 1L5, 416-593-6828.

The American Dental Association's Dental Identification Registry (ADIR) program got under way in February and the State of Maryland was selected as the first site of distribution of the tiny microfilm discs.

The disc is bonded to a tooth and is coded to correspond with information kept on file about that person at the ADA headquarters. The ADIR registry will contain a computerized record of basic identifying information to correspond with each disc, including the patient's name, address, telephone number, social security number, sex, and the name of the treating dentist.

The discs, about 2.5 mm in diameter, of polyester-based photographic film, are laminated on the emulsion side with a protective layer of mylar/polyethylene composite material. They are being sold under the trade name of ADIR DataDisk.

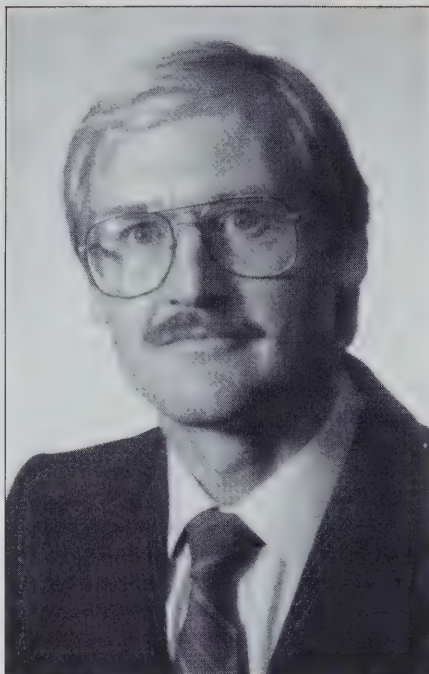
It was pointed out at ADA's annual meeting last fall that the discs are not a missing children's program, but rather, a national identification system which will benefit the elderly, the handicapped, frequent travellers and children.

The discs are priced at \$10 for ADA members and \$12.50 for non-members.

CDA's President, Dr. Brad Holmes, will be available to members April 2, 1986.

Dr. Holmes is carrying on the tradition of "Call the President Day" and CDA members and non-members alike are invited to call the CDA President on any topic of concern.

Dr. Holmes will be available at CDA headquarters from 8:30 am to 4:30 pm, Eastern Standard Time, to all interested callers. Callers may reach the President by calling collect, 613-523-1770 during those hours.



Dr. W. Murray McKechnie

Dr. W. Murray McKechnie, of Swift Current, Saskatchewan, was elected as President of the College of Dental Surgeons of Saskatchewan at that body's annual meeting October 31–November 1, last.

He assumed office on January 1 of this year.

Dr. McKechnie is a 1973 graduate of the Faculty of Dentistry, University of Manitoba and has served as a member of the Council of the Saskatchewan College for five years.

In the December 1985 issue of the Journal (Volume 50, No. 12), some errors were made in the story of the CDHA Fun Run.

The run was 10 kilometres in length or 6.2 miles, not 6 kilometres, as reported. The winner of the run, Dr. Patrick Roy, reported as being a participant in the local Ironman Triathlon, pointed out to the Journal that there is no local event of that nature.

Indeed, the Ironman Triathlon is the only one of its kind, and is a prestigious athletic event held annually in Hawaii.

Apologies to both CDHA and Dr. Roy are offered for these inaccuracies.

A newsletter designed to help health professionals and others cope with AIDS challenges is being published in the United States.

The newsletter, called "AIDS Alert" is being published by American Health Consultants, the largest independent publisher of newsletters in the U.S. The publication will present the latest available news, and expert advice on such topics as hazards, precautions, diagnosis, treatment and

screening. Topics of interest in the management of the disease will include legal issues, school policies, employment guidelines, education and prevention.

The first issue appeared in January. Cost of a yearly subscription for 12 issues is \$89 (US).

The first test tube model to study how oral bacteria attach to the root surface of the teeth and damage gum tissue, has been developed by dental researchers at the University of California in San Francisco.

Those involved with the project say that the research could lead to the development of new therapies to control periodontal disease and could ultimately prevent it. Recent findings indicate wide variations in adherence among different bacterial species. They show that bacteria implicated in some forms of periodontal disease stick to the cementum in much higher numbers than to enamel, according to the researchers.

Future studies have been planned to examine how different dentifrices and other therapeutic agents can prevent or alter adherence.

In Finland, the government has decided to cut the volume of student intake into dental schools from 160 to 130, after consideration of 1983 recommendations in a study sponsored by that country's Ministry of Health and Social Affairs.

Since 1978, dental student intake has dropped from 200 to 130. The unemployment situation has gradually become worse during that period.

Britain continues to tighten immigration regulations for dentists coming from abroad.

The most recent regulations stipulate that dentists from overseas, except those coming from other European Common Market countries, will require a work permit or £150,000 to invest in their practices, before being able to begin a practice in the UK.

The new rules do not apply to dentists and physicians who seek entry to UK hospital postgraduate training. They will be admitted for up to four years and at the end of that period they will be able to remain only if granted an extension under normal immigration and employment provisions. A similar permit-free term will be available to overseas students graduating in the UK.

The new regulations do not affect the position of overseas dentists who are currently working in the UK.

A cookbook is now available for people who are unable to chew, due to oral surgery, dental prostheses or as a consequence of other medical problems.

"The Non-Chew Cookbook" was developed by J. Randy Wilson, after his wife was told by her dental surgeon that following TMJ surgery she would be unable to chew for six months.

A weekend gourmet, Mr. Wilson either invented new recipes or adapted existing ones for people who could not chew. The cookbook, which has been endorsed by both dentists and nutritionists, as well as physicians, contains 200 recipes for people with chewing or swallowing difficulties.

"It is not a blender cookbook", said Mr. Wilson. "I didn't do the obvious things like milkshakes."

The book also contains the nutritional value of every recipe and some tips on how to adapt recipes to non-chewable form.

The cookbook has been exhibited at the American Dental Association Convention and the Convention of the Oral and Maxillo-facial Surgeons in the U.S.

Available for \$14.95 plus \$2.50 postage and handling (U.S. dollars), the cookbook can be ordered from Wilson Publishing Inc. P.O. Box 2190, Glenwood Springs, Colorado, 81602.

An Israeli archaeologist has reported the world's oldest known dental filling, in the skull of a middle-aged Nabatean warrior, who had been buried in a mass grave about 2,200 years ago.

Archaeologists noted that a bronze wire had been inserted into the canal, a treatment the patient likely believed would stop "toothworms" from burrowing further into the decaying tooth.

Joe Zias, curator of Israel's Department of Antiquities believes that death must have come as a relief for the warrior. "This guy's mouth was a mess. He had four abscesses, two impacted teeth, an extra tooth in front and an enlarged molar. Mr. Zias said he had confirmed with historians in the United States that this was the oldest tooth ever found with an intact filling.

It has been learned that ancients believed tooth decay was caused by a tooth worm. The notion continued until the era of modern dentistry began, about 300 years ago. Some scientists have found the concept still persists in backward societies.

Zias commented that the bronze wire was probably inserted to "keep the worms from climbing in."

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at	
	January 31, 1986	December 31/85
Fixed Income Fund	49.36061	49.79459
Common Stock Fund	103.74609	105.08592
Money Market Fund	33.65239	33.42385
Balanced Fund	20.19849	20.35336

Interest rates:

Guaranteed Fund

Term	*Interest rates as at	
	January 31, 1986	December 31/85
1 yr	9.60%	8.70%
2 yr	10.05%	9.15%
3 yr	10.10%	9.65%
4 yr	10.35%	9.75%
5 yr	10.40%	10.10%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

	January 31, 1986	December 31/85
	\$50,958,381	\$50,584,554

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:

Western and Atlantic Canada and Ontario Area Code 807 only	1-800-268-5418
Quebec and Ontario, (except Area Code 807)	1-800-268-3411
Metro Toronto Area	497-7117

1986 HALIFAX CONVENTION

Extensive coverage of the 1986 Halifax Convention will continue in the Journal for the months ahead. Future issues will highlight the following topics:

APRIL

Spouses, hygienists, assistants programs and major social events

MAY

Full details of a world class scientific program

JUNE

Profiles of the major speakers

JULY

Giant Pre-convention issue.

To ensure that you qualify for the CDA Air Canada Early Bird draw and receive the hotel of your choice complete the registration form early and mail it to

CDA Headquarters,
1815 Alta Vista Dr.
Ottawa, Ont. K1G 3Y6.
HOUSING FORMS WILL
BE AVAILABLE IN THE
APRIL ISSUE.

DON'T MISS IT.

DENTAL AWARENESS PROGRAM UPDATE

Dental Health Month 1986: A New Approach

The aim of CDA's Dental Awareness program, simply stated, is to change the way Canadians think about and what they do about their dental health. To effect any real change, CDA needs the cooperation and enthusiasm of individuals, constituent groups, and organizations with related interests.

For this reason, Dental Health Month '86 has sought deliberately to "decentralize"... to encourage and facilitate the ongoing contribution of ideas, involvement, and support from individuals, from organized dentistry at all levels, and from outside groups and corporations.

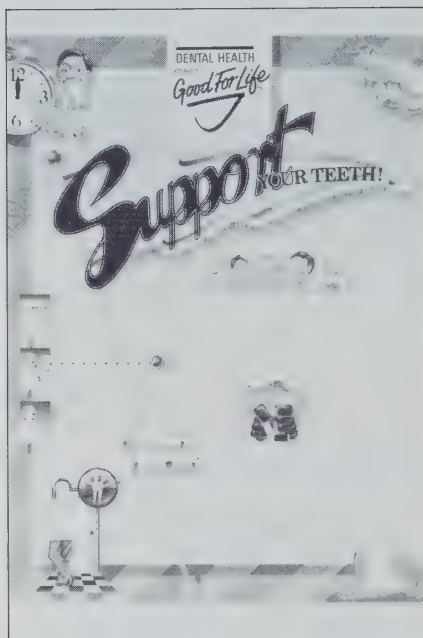
In the same spirit, the new Dental Health Month materials are designed to keep working long past April. Traditionally, Dental Health Month has been the focus for all of CDA's information and public education efforts. But this year, rather than concentrating all dental health promotion in one brief month, the CDA — through its Dental Awareness Program — will be using Dental Health Month to launch permanent, ongoing educational and promotional materials which will work on an ongoing basis to keep dental health a visible concern throughout the year.

Materials for Members

The Poster. It's big (17" x 22"), lively, and printed in full colour.

Organized visually and thematically around the slogan "Support Your Teeth", it features useful and surprising information on various topics — such as brushing and flossing, periodontal disease, and the dentist's role in prevention.

The Motivation Sticker. This is a 2" x 2" clear Mylar sticker displaying the Good for Life logo in colour. A special motivational message is printed on the peel-off backing. A suggestion: The sticker makes an excellent dental care reminder for patients. It's ideal for the bathroom mirror,



where light shines through the transparent background. Each member will receive one sticker, but handout lots of 100 stickers can be ordered through the CDA at a cost of \$10.00 per hundred.

The Button. It's round, 1 3/4" in diameter, and it features the Good for Life symbol in colour. Again, members will receive one button each, and more are available through the CDA in lots of 25. The cost is \$5.00 for 25 buttons.

Fact Sheets. The Dental Awareness Program has created a series of helpful, authoritative dental health fact sheets. Four illustrated originals will be mailed to each CDA member. These originals are specially designed to be photocopied — so that fact sheet copies can be distributed to patients at little or no cost.

The Dental Awareness Program Report

A special Dental Health Month issue dedicated to "Communicating Care". Watch for it.

The 2nd Dental Health Checkup

Last year the Dental Awareness Program created a new public education vehicle: a national magazine supplement which reached an estimated 4,000,000 people. We're doing it again. *The Second Dental Health Checkup* is a 12-page publication featuring 20 provocative questions and detailed answers about dental health, with specific emphasis on adult issues and concerns. It will appear in *Chatelaine's* May issue (on the newsstands in mid-April.) Extra copies of the *Checkup* are being printed and will be available from the CDA.

Once again, the program has succeeded in attracting corporate dollars to the supplement. The cost of this year's *Checkup* — roughly \$300,000 — will be borne entirely by Colgate.

Community Involvement

Check with your dental society to find out what activities are in the works for Dental Health Month. We feel that local dental societies and public health units are in an ideal position to interest and involve their communities in dental health — by organizing promotional events that provide for personal contact, by encouraging local businesses to cooperate, and by attracting coverage of dental health issues in local media. So this year, the Dental Awareness Program provided local societies with the *Dental Health Month Planning Kit*, a folder containing everything it takes to run a successful community campaign.

Designed to serve as a permanent tool for ongoing promotion as well as future Dental Health Months, the kit contains a step-by-step organizer's guide to proven community projects, many involving little or no expense. It also includes a complete media relations handbook with easy-to-follow tips on getting local media coverage; a set of ten illustrated dental health fact sheets to be photocopied and distributed to the public at display events or in clinics and waiting rooms; a series of topic outlines ideal for media interviews and public talks; and an

assortment of camera-ready graphic materials for publication.

The graphic materials include a reproduction copy of the Good for Life logo to be incorporated into display signs, stationery, or any promotional materials; and, for local print media, a dental health quiz ("Test Your Tooth Wisdom") for local newspapers; and a series of "filler advertisements."

Provincial Associations

The Dental Awareness Program has also facilitated Dental Health Month planning at the provincial level. This year, all ten provinces are using the Good for Life theme and materials. Consultants were made available to provincial associations to help them develop a strategy for Dental Health Month, and special resources were developed for planning on a province-wide scale.

In addition to planning material, each provincial association received:

- Dental Health Month media kits, including several in-depth feature stories on topical dental health issues
- an 11" x 23" transit advertisement, designed to meet size specifications for subways and buses and to accommodate backlighting where available.
- a 30-second public service announcement to be broadcast on local radio stations, featuring a lively and informative dialogue about dental health.
- a series of cartoon-like public service print advertisements, designed to fill unused page space in a variety of column formats. Like the poster, these advertisements offer cogent, encapsulated information on a variety of dental health topics.

Local Heroes

An important aspect of this year's "decentralized" Dental Health Month is the drive to attract media attention to local events and personalities. There are two main thrusts to this drive.

One is simply to help and encourage communities across Canada to organize dental health promotion events which will in themselves attract media attention.

The other is working to get individual dental professionals in front of local media and interested groups on dental health issues. To make the prospect of public exposure less daunting, the Dental Awareness Program has created six complete, prepared subject outlines on which dentists, hygienists, or dental assistants can base public talks or media interviews. Included are tips for underlining the program's essential messages: that dental health is an achievable, lifelong goal; that it is an important part of overall health, and that dental professionals offer patients their advice and expertise in preventing dental disease. The outlines

have been provided to provincial associations and local dental societies as part of the Dental Health Month Planning Kit.

Moreover, we're sponsoring a Dental Health Month speakers' contest — the *Word of Mouth Award*. This is a program to recognize and reward the dentist, hygienist, and dental assistant in each province who is most effective in publicly disseminating the Good for Life dental health message. Contact your local society or provincial association to find out if your province is participating.

Not only will the *Word of Mouth* contest encourage individuals to offer their time, it will help identify articulate and compelling spokespeople for dental health across Canada.

What You Can Do

Just as Dental Health Month depends on corporate support to sponsor projects, it also depends for its vigour and effectiveness on personal support and endorsement from individual CDA members. Here's how you can help.

Use the Dental Health Month materials to give **Good for Life** a visible presence in your office. Hang the poster where patients can easily read it while they're waiting. (Wear the button, too. It's a great way to engage patients in conversation about prevention and dental health. Just point to the button and ask what they think about the new symbol!)

Let your patients know it's Dental Health Month. It's a good idea to give them something out of the ordinary to take home. The Fact Sheets are friendly, helpful, and thought-provoking; you can photocopy them and hand out copies. Buttons and stickers are great for kids. A suggestion: to help create a special atmosphere, try keeping flowers in your office throughout April.

Contact your local dental society and offer to talk to the media or to interested groups about dental health issues. No matter what you can talk about — advice for parents, wisdom teeth, personal care, seniors' concerns — there are people in your community who want and need to know about it. You won't be unprepared; through your local dental society, the Dental Awareness Program can give you advice and supply ready-to-use outlines for interviews and talks. We're even offering rewards for prolific speakers. (See *Local Heroes*, above.) We can't promise to make you a star. But if you're willing to try, you can become a valuable and effective channel for getting the dental health message out.

The Dental Awareness Program Update is prepared exclusively for the Journal by Manifest Communications to keep members informed about the DAP Program.

Take It From Us!

Why wait to find out you need First Aid and CPR training? First Aid and CPR save lives! Take it from us, Canada's leader in First Aid training.



St. John Ambulance

Letters

EDITORS NOTE: The information contained in the Briefly was obtained from a Press Release issued by the International Association for Orthodontics. According to a spokesperson for the Organization there are presently no accredited Canadian orthodontists in the organization. It is an organization for general practitioners or pedodontists who do orthodontics within their practices and, as Dr. Yasny points out, it is a non-specialty organization. Apologies are offered to both the CAO and OSO for any misunderstanding this may have caused.

BRIEFLY ERROR POINTED OUT

I am writing to draw your attention to a blatant misrepresentation of specialty status in the most recent Journal of the Canadian Dental Association #1, 1986 page 14 2nd paragraph.

The paragraph in question starts as follows: Two Canadian orthodontists recently. . . . "Dr. Brock Rondeau and Dr. Richmond Cheng are *not orthodontists* . . . they do not possess the necessary requirements of being graduates from accredited orthodontic schools. Their certification in "orthodontics" comes from the International Association for Orthodontists a most dubious distinction.

How and why do general dentists obtain this kind of mileage and publicity in the C.D.A. Journal?

The International Association for Orthodontics is not a certified accreditation institution and should not receive undue and unjustified promotion and publicity in our C.D.A. Journal.

The editor and persons responsible for publishing the C.D.A. Journal must be made aware of this error and the insidious fragmentation this misrepresentation causes between the certified orthodontic specialists and the general dentists. This fragmentation is presently a very serious threat to the integrity of dentistry as a profession and is presently being studied by the American Dental Association and the American Association of Orthodontists.

As far as I personally am concerned, I would hope the International Association for Orthodontics will limit their publicity and promotion within their individual member-

ship and not utilize the C.D.A. Journal as a vehicle to further their aims and objectives.

I would also suggest that the Canadian Association of Orthodontists take exception to this I.A.O. advertising and promotion. The Canadian Association of Orthodontists has specialty status and privilege with the Canadian Dental Association . . . the I.A.O. does not. It's time to set the record straight so that Canadian dentists know what is going on.

*Dr. J.L. Ares
Former Executive Director
Canadian Association of Orthodontists*

CORRECTION: BRIEFLY

I should like to comment on an insert in the "Briefly" columns of the January Canadian Dental Association, vol. 52, no. 1, 1986. The item referred to appears on page 14, and begins "Two Canadian Orthodontists. . . .", with the body of the insert referring to Dr. B. Rondeau and Dr. R. Cheng.

Whether the item submitted to you was incorrect, or whether the editor was in error, I cannot judge. However let me clearly state what I do know to be factual — neither of these gentlemen is an orthodontist. They may indeed belong to the self-proclaimed International Board of Orthodontics, but this fine use of semantics does not entitle one to grant specialty certification as an orthodontist.

Certified orthodontists do not object to general dentists performing orthodontic treatment. Although we do not engage in general dental treatment performed by men such as Rondeau and Cheng, we do accept the fact that they engage in our endeavours. Nor do we object to their continual insertion of announcements in the dental journals. Indeed we are pleased by the flattery that is implied by their attempts to so closely identify with us, but we do ask that they be just a bit more accurate.

The "Briefly" item stated that Dr. Cheng was awarded his certification in general orthodontics. In the interests of proper language may I suggest to the I.A.O. that the term "General Orthodontics" is a perfect example of an oxymoron. As such, the C.A.O. would be pleased to assist the I.A.O. in the use of better English in order to select a more definitive term for their members.

*Malcolm Yasny, D.D.S., M.Sc.D.,
P.R. Chairman,
C.A.O. and O.S.O.*

ORTHODONTISTS ASSOCIATION PROTESTS ERROR

I wish to bring your attention, the column in the "Briefly" section of the Journal Canadian Dental Association, Pg. 14, vol. 52, no. 1, 1986, which begins "Two Canadian orthodontists. . . ."

To my knowledge, Drs. Rondeau and Cheng are not certified orthodontists who have graduated from an accredited orthodontic post graduate dental program and therefore are not recognized by any Canadian licensing body as orthodontists. Nor are they members of the Canadian Association of Orthodontists or the American Association of Orthodontists whose members are all certified licensed graduates from accredited Schools of Dentistry. I believe that Drs. Rondeau and Cheng are dentists who may perform orthodontic services as part of their general practice of dentistry.

Furthermore, I find it odd that the Journal would wish to publicize the awarding of a "certification in general orthodontics (?) from the International Board of Orthodontists." The Canadian Dental Association spends thousands of dollars on accreditation of dental schools to maintain the standards and advancement of our profession however the International Board of Orthodontists, its members and curriculum are not accredited by the Canadian Dental Association nor the American Dental Association. The certification is also unrecognized by any provincial licensing board. It would therefore seem strange to publicize a para specialty group which has no accreditation nor provincial acceptance.

If your editor wishes to publicize the certification of Canadian dentists who have completed specialty programs accredited by CDA/ADA, these lists can be easily obtained from each provincial licensing body. Unfortunately that would draw less interest.

The Editorial of December 1985 issue of the Journal, pg. 867, "Dead Horses and other Stories" mentions "The national association for Canadian dentists . . . is the only one that can help you with your problems, . . . quality education and awareness." Perhaps a more careful scrutiny of facts, problems, and quality education is indicated. However, as Ms. Hackland quotes in her Editorial "You can't flog a dead horse."

*Oleg S. Kopytov, DDS, MSc.
President-elect
Canadian Association of Orthodontists*

HYGIENE WORKING GROUP REPORT 'SIGNIFICANT'

The publication of the Executive Summary of The Working Group on the Practice of Dental Hygiene is a significant development in dental hygiene in Canada.

The Working Group was established by the Department of National Health and Welfare in the spring of 1981. It is composed of eight dental hygienists and five dentists, and coordinated by a member of the Health Services Directorate. Members were nominees of such professional organizations as the Canadian Dental Hygienists' Association, the Canadian Dental Association, and the Canadian Society of Public Health Dentists.

During deliberations, the Working Group discussed many facets of dental hygiene in Canada: history, education, human resources, regulation, dental hygiene practice, and factors influencing dental hygiene in Canada. It is hoped that its findings will be of interest to several publics: individual dental hygienists and their employers, regulatory bodies, departments of health and education, professional dental hygiene and dental organizations, teachers, students, and administrators of dental hygiene educational programs.

Part One of the Report of The Working Group on the Practice of Dental Hygiene, the Executive Summary of which appears in this issue, will be published in late 1986. Copies of the Executive Summary and Recommendations are available through the Health Services Directorate, Department of National Health and Welfare.

Part Two of the Report of The Working Group on the Practice of Dental Hygiene will be a statement of standards for clinical dental hygiene practice. Research is currently under way for this project, and the report will be published in 1988.

*M.G.E. Forgay, Chair
The Working Group on the Practice of
Dental Hygiene*

THE PAUL REVERE LIFE INSURANCE COMPANY LONG TERM DISABILITY PROMOTIONAL MATERIAL

At the request of the Canadian Dental Association we have reviewed certain promotional material which has been published by The Paul Revere Life Insurance Company. The promotional material is in the form of a question-and-answer comparison of the long term disability income policies offered by Paul Revere (the "Preferred Professional" 940 S-85 Plan), versus the Canadian Dentists' Insurance Program

(CDIP) which is underwritten by Imperial Life.

We have prepared a corrected version of the Paul Revere promotional material, and interested CDA members may obtain a copy of the corrected version by contacting the offices of the CDSPI. In brief, the main conclusions drawn from our review of the promotional material are as follows:

1. Some of the answers given by Paul Revere are incomplete, incorrect or misleading.

For example, Paul Revere asks the question, "What injuries and sicknesses are covered?", and goes on to state that

"(the CDIP) 27 page contract has no definitions of injury or sickness. Two key definitions used in assessing the claim, why??? What is being kept from the dentist. . .?"

The fact is that the CDIP contract clearly states that any accidental injury or any illness, except uncomplicated pregnancy, is covered. In addition, whereas Paul Revere will pay benefits only for injuries or sickness which appear after the policy is in force, CDIP has no such limitation. Once accepted for coverage, there is no restriction applicable to "pre-existing conditions".

In addition, the CDIP contract is unusually long because it includes a number of details with respect to the favourable group financial arrangements (see 3. below) which have been negotiated. The long contract should not concern the participating dentist, because the coverage details concerning the CDIP are available in an easy-to-read, but descriptive brochure which is sent to all plan participants.

2. The Paul Revere promotional material does not reflect important improvements which have now been added to CDIP for 1986.

At the time of publication of the Paul Revere question-and-answer sheet, significant improvements to the CDIP were being negotiated with the underwriter. These improvements have now been announced and include:

(a) Guaranteed Conversion Privilege — in the unlikely event that the current group program is cancelled and not replaced with a similar plan, Imperial Life will provide *individual non-cancellable, guaranteed renewable* contracts to all participants who apply, regardless of their state of health. This new provision does not require the payment of additional premium by CDIP participants. The premium rates for the individual policies will be negotiated every four years, and will be competitive with current individual LTD policies available from private insurers.

(b) Future Insurance Guarantee — participants will be able to increase their LTD

coverage by up to 25%, at specific points in time (marriage, birth or adoption of child, attainment of specified ages), without evidence of insurability. No additional premium is required for this guarantee.

3. No comparisons are drawn by Paul Revere on one of the most important features — cost to the dentist.

Based on premium rate information which we have obtained from Paul Revere, we developed premium comparisons for sample policies underwritten by Paul Revere versus coverage that may be obtained under CDIP. For essentially equivalent benefits, with minor variables, the CDIP program offers significant savings.

For example, following is a comparison of the aggregate premiums paid by a dentist for a \$3,000 monthly long term disability income policy during the period from ages 43 to 65.

Plan*	Paul Revere	CDIP	CDIP Savings
30 Day Elimination	\$49,700	\$30,200	\$19,500
90 Day Elimination	39,700	24,900	14,800

* Both plans include basic LTD benefits, cost-of-living benefits, and future purchase options.

The low premiums under the CDIP are due to the fact that the dentists' group purchasing power has kept administrative expenses to a minimum, and has ensured that interest earned in the funding of the program is retained for the benefit of the plan membership. In the 1978 to 1984 period during which the plan has been underwritten by Imperial Life, approximately 97% of the gross premium has been used to pay claims that have been incurred to date. This is a much higher claims utilization percentage than is assumed in the premiums available from the individual insurance market.

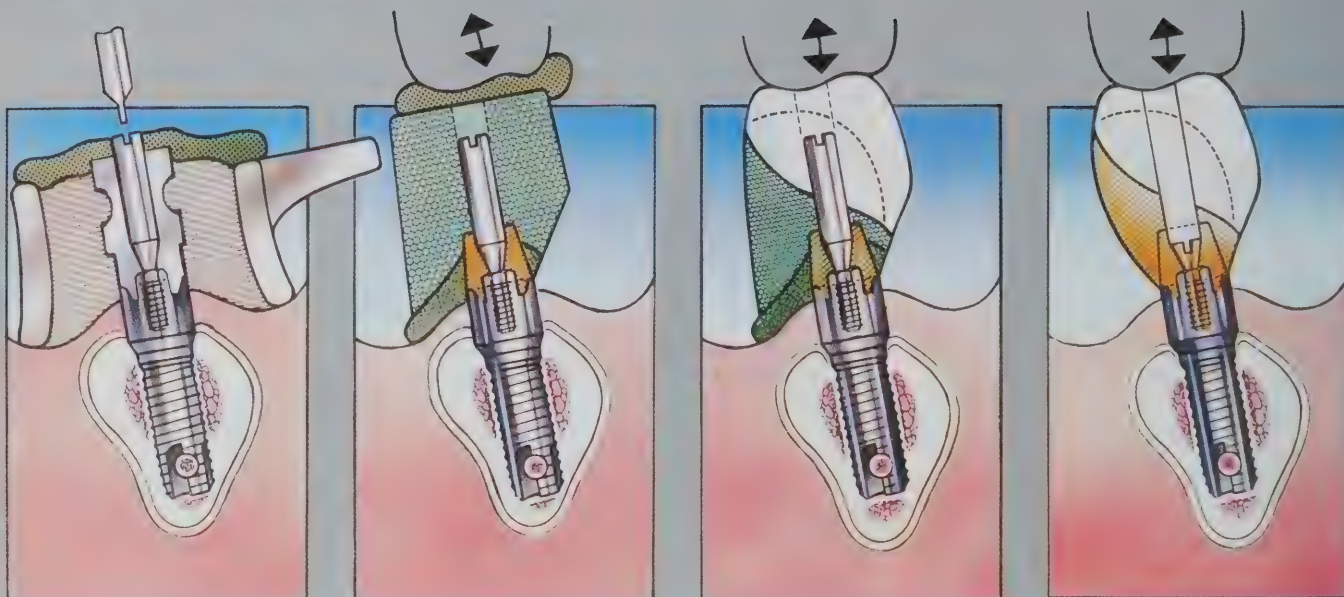
The high 97% utilization percentage under CDIP has been possible because most of the expense (approximately 20% of gross premium) involved in administering and underwriting the plan has been met by interest and other credits which have been negotiated in the group underwriting arrangements. The low level of "net expenses" under the program (i.e. after interest and other credits) has enabled the CDIP program to be run on an actuarially sound basis, with premium rates which are far less than are available in the individual insurance market.

We recommend that dentists contact the CDSPI Central Information Service if they wish to obtain further details concerning this issue.

*Kenneth T. Ransby, F.S.A., F.C.I.A.
Principal
Towers, Perrin, Forster & Crosby Limited*

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Biotes training is given in close cooperation with universities and training institutions. Applications are handled through the T.I.P. training center, but admittance to the various courses is determined by the teaching institutions.

For application or additional information, please call the T.I.P. training center in the U.S.:

800-447-1160

(IN MASS: 617-894-6575)

IN CANADA: 416-961-1555

OR IN SWEDEN: 011-46-31-813160

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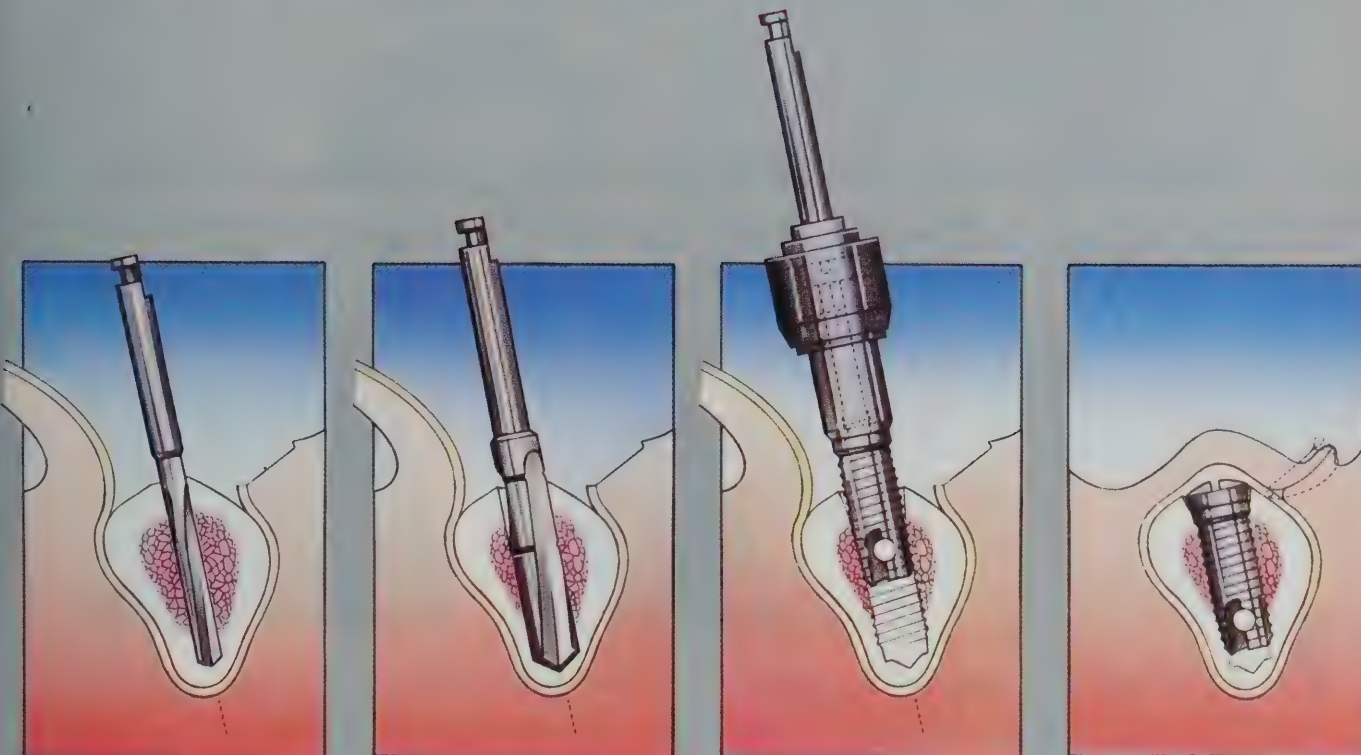
American Dental Association — Council on Dental Materials, Instruments and Equipment

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51 Sawyer Road
Suite 100
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Waltham, MA 02154



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Gothenburg, Sweden
Gothenburg, Sweden
Gothenburg, Sweden
Gothenburg, Sweden
Gothenburg, Sweden
Los Angeles, CA
Los Angeles, CA
Los Angeles, CA
Malmö, Sweden
Malmö, Sweden
Montreal, Canada
Rochester, NY
Rochester, NY
San Antonio, TX
Seattle, WA
Seattle, WA
Toronto, Canada

May 14-16
Jan 20-24
May 20-23
June 16-18
Aug 25-27
Oct 6-9
June 9-11
Aug 25-27
Oct 13-15
April 21-24
Sept 29-Oct 1
May 7-9
April 17-19
Nov 7-9
Jan 24-26
Nov 14-16
Sept 15-17
Nov 24-28
June 25-27

Univ. of Alberta
Univ. of Gothenburg
Univ. of Gothenburg
Univ. of Gothenburg
Univ. of Gothenburg
Univ. of Gothenburg
UCLA
UCLA
UCLA
Univ. of Lund
Univ. of Lund
McGill Univ.
Eastman Dental Center
Eastman Dental Center
Univ. of Texas
Univ. of Texas
Univ. of Washington
Univ. of Washington
Univ. of Toronto

Gothenburg, Sweden
Gothenburg, Sweden
Los Angeles, CA
Los Angeles, CA
Los Angeles, CA
Malmö, Sweden
Montreal, Canada
New York, NY
Rochester, NY
Spokane, WA

May 20-23
June 16-18
May 9
June 9-11
Aug 25-27
April 21-24
May 7-9
Aug 29
April 17-19
April 18

Univ. of Gothenburg
Univ. of Gothenburg
UCLA
UCLA
UCLA
Univ. of Lund
McGill Univ.
T.I.P. Training Center
Eastman Dental Center
Spokane Center for Tissue
Integrated Reconstruction

2-DAY PROSTHODONTIC TRAINING

Boston, MA
Lexington, KY
Los Angeles, CA
Los Angeles, CA
Nashville, TN
New York, NY
Philadelphia, PA
Philadelphia, PA
Philadelphia, PA
San Antonio, TX
Spokane, WA

April 5-6
April 11-12
March 1-2
May 17-18
March 17-18
May 2-3
Feb 7-8
May 9-10
Nov 7-8
May 9-10
March 14-15

Harvard Univ.
T.I.P. Training Center
UCLA
UCLA
Vanderbilt Univ.
NYU
Institute for Facial Esthetics
Institute for Facial Esthetics
Institute for Facial Esthetics
Univ. of Texas
Spokane Center for Tissue
Integrated Reconstruction
Univ. of Toronto

Toronto, Canada

Feb 28-March 1

O.R. NURSE TRAINING

Boston, MA
Boston, MA
Edmonton, Canada

March 7
May 24
May 14-16

T.I.P. Training Center
T.I.P. Training Center
Univ. of Alberta

TECHNICIAN TRAINING

Edmonton, Canada
Gothenburg, Sweden
Gothenburg, Sweden
Gothenburg, Sweden
Gothenburg, Sweden
Los Angeles, CA
Los Angeles, CA
Los Angeles, CA
Malmö, Sweden
Malmö, Sweden
Montreal, Canada
Rochester, NY
Rochester, NY
San Antonio, TX
San Antonio, TX
San Antonio, TX
Seattle, WA
Seattle, WA
Toronto, Canada

May 14-16
Jan 20-24
May 20-23
June 16-18
Oct 6-9
June 9-11
Aug 25-27
Oct 13-15
April 21-24
Sept 29-Oct 1
May 7-9
April 17-19
Nov 7-9
Jan 24-26
March 14-15
Nov 14-16
Sept 15-17
Nov 24-28
June 25-27

Univ. of Alberta
Univ. of Gothenburg
Univ. of Gothenburg
Univ. of Gothenburg
Univ. of Gothenburg
UCLA
UCLA
UCLA
Univ. of Lund
Univ. of Lund
McGill Univ.
Eastman Dental Center
Eastman Dental Center
Univ. of Texas
Univ. of Texas
Univ. of Texas
Univ. of Washington
Univ. of Washington
Univ. of Toronto

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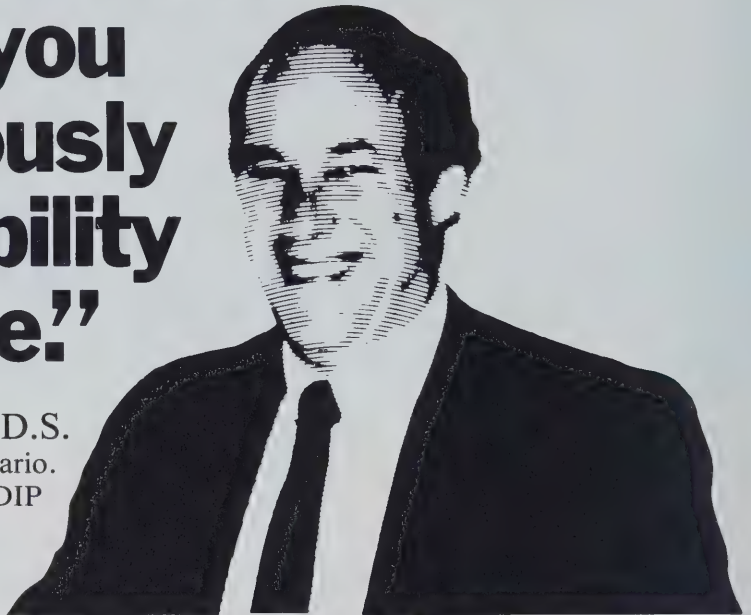
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Bob Brandon, D.D.S.
London, Ontario.
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This material has been approved by our consultant/brokers and insurers.

Resource Centre de documentation

SPEECH DISORDERS AND MALOCCLUSION

DÉFAUTS D'ÉLOCUTION ET MALOCCLUSION

1. Coleman, R.Q. and Gulikson, J.S. *Speech problems in children*. Journal of Dentistry for Children, v. 28, no. 6, November-December 1971, pp. 381-384.
2. Curzon, M.F. *Dental implications of thumb-sucking*. Pediatrics, v. 54, no. 2, August 1974, pp. 196-200.
3. Fawcus, R. *The relationship between speech disorders and oro-facial abnormalities*. Proceedings of the British Paedodontic Society, v. 5, Winter 1975, pp. 29-31.
4. Hopkin, G.B. *Orthodontic aspects of the diagnosis and management of speech defects in children*. Proceedings of the Royal Society of Medicine, v. 65, no. 4, April 1972, pp. 409-414.
5. Jackson, I.T., McLennan, G. and Schecker, L.R. *Primary veloplasty or primary palatoplasty: some preliminary findings*. Plastic and Reconstructive Surgery, v. 72, no. 2, August 1983, pp. 153-157.

Abstract:

Staged palatal closure was carried out in 30 children. The soft palate was closed at 9 months and the hard palate at 5 years. These patients were followed up for 7 years, and it was found that although the incidence of lateral crossbite was reduced in both unilateral and bilateral cases, the speech results were less satisfactory than those obtained with total palatal closure. In this series, there were two fistulae at the junction of the hard and soft palate. This was related to difficulty in closing this area in some patients at the time of the second operation. As a result, the procedure is not advised. An alternative palatal closure technique is described.

6. Jaffe, P.E. and Lifton, M.S. *Developing malocclusion and infantile speech*. New York Journal of Dentistry, v. 41, no. 4, April 1971, pp. 135, passim.
7. Kent, K. and Schaaf, N.G. *The effects of dental abnormalities on speech production*. Quintessence International, v. 13, no. 12, December 1982, pp. 1353-1362.
8. Lewis, R. *Tongue thrust and the protrusion lisp*. Journal of the Canadian Dental Association, v. 37, no. 10, October 1971, pp. 381-383.

9. Luke, J.S. and Howard, L. *The effects of thumbsucking on orofacial structures and speech: a review*. Compendium of Continuing Education in Dentistry, v. 4, no. 6, November-December 1983, pp. 575-579.
10. Mason, R., Turvey, T.A. and Warren, D.W. *Speech considerations with maxillary advancement procedures*. Journal of Oral Surgery, v. 38, no. 10, October 1980, pp. 752-758.

Abstract:

Advancement of the maxilla has the potential to cause hypernasal speech, especially in patients with repaired cleft palates. Findings in three patients whose speech was at risk with maxillary advancement procedures are discussed, as well as their management. Diagnostic guidelines for identifying patients whose speech may be adversely affected by maxillary advancement are also presented.

11. Mason, R.M. and Proffit, W.R. *The tongue thrust controversy: background and recommendations*. Journal of Speech and Hearing Disorders, v. 39, no. 2, May 1974, pp. 115-132.
12. Mikell, B. *Recognizing tongue related malocclusions*. International Journal of Orthodontics, v. 23, nos. 1-2, Spring 1985, pp. 4-7.
13. Pound, E. *Controlling anomalies of vertical dimension and speech*. Journal of Prosthetic Dentistry, 36, no. 2, August 1976, pp. 124-135.

Abstract:

In this article, definite ways and means have been discussed for controlling the vertical dimension of occlusion by using certain tooth-to-tissue relations that exist in normal speech. The primary emphasis is placed on managing the problems encountered in the most troublesome types of patients — those with Class II occlusions, the tongue thrusters, and those who lisp.

14. Ruscello, D.M., Tekieli, M.F., Van Sickels, J.F. *Speech production before and after orthognathic surgery: a review*. Oral Surgery, Oral Medicine, Oral Pathology, v. 59, no. 1, January 1985, pp. 10-14.
15. Throp, W. *Speech. Report of a seminar. C. What is the orthodontic relationship to speech and speech defects? a. Speech and the teeth*. New Zealand School of Dental Service Gazette, v. 37, no. 3, August 1976, p. 47.
16. Witzel, M.A., Ross, R.B. and Munro, I.R. *Articulation before and after facial osteotomy*. Journal of Maxillofacial Surgery, v. 8, no. 3, August 1980, pp. 195-202.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged \$5. This bibliography was generated with the help of MEDLARS.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour \$5 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS.

NEW LIBRARY ACQUISITIONS

TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

Oral Health Care for the Older Adult. Special Supplement to Special Care in Dentistry. Roger H. Scholle, Editor-in-Chief. 24p. 1 copy.

OF INTEREST

The Library/Resource Centre responds to between 300 and 800 requests a month. Some of the questions answered during previous weeks have been for material on the following:

- leaking of vital and non vital teeth
- techniques of posterior superior nerve anesthesia
- malignant hyperthermia and dental implications
- orofaciogigital syndromes
- onlays and inlays
- evolution of the human dentition during the last 10 million years
- how far back can the form of the human jaw be related to its function
- dental implants
- chronic osteomyelitis
- diabetes and bone loss: its effect on the periodontium
- abrasivity of toothpaste
- Gardner's syndrome
- fluorides and osteoporosis
- tooth abscesses in children: consequences of not extracting

If you have a topic you would like researched please call us collect. We will be pleased to help.

Book Reviews

"TRACE ELEMENTS AND DENTAL DISEASE"

M.E.J. Courzon, T.W. Cutress

*Published by John Wright,
PSG Inc., Boston,
1983.*

Ever since the discovery that mottled teeth and the concomitant resistance to caries was related to a factor in drinking water, subsequently identified as fluoride, trace elements and dental disease has been a lively subject. Interest and publications in this field have culminated in this book whose objective is "to bring together the present knowledge and thought on trace elements in dental disease". In addition to the two senior co-authors twelve other investigators have contributed to make this the most comprehensive text dealing with trace elements and dental disease. With the exception of a brief excursion as to the role of trace elements in periodontal disease most of the text is devoted to trace elements and dental caries.

The text is divided into three parts. The first part is devoted to a background discussion and the epidemiological effects of trace elements on dental caries. The second part is devoted to trace elements in teeth (enamel and dentin, bone, calculus, saliva and plaque). The third part deals with the role of the individual trace elements on dental disease. Individual chapters consider a wide variety of single essential and non-essential trace elements.

The chapters are generally well written, comprehensive, and the assessment of the role of trace elements in dental disease indicates a high standard of synthesis of diverse publications.

The text recognizes that many elements found in different tissues, including teeth, may be adventitious and are present by virtue of the environmental availability of the element. This is particularly important in assessing the importance of trace elements in enamel. Further, biologic apatites tolerate a wide range of substitution in its lattice which accounts for diversity of trace elements in hard tissues.

As in most texts minor flaws or debatable points may be found. Fluorine is indi-

cated as an essential trace element for calcification, growth and fertility. However, nothing is said that the studies which implicated a low fluoride intake with fertility impairment in mice, has not been corroborated. A further example of difficult interpretation relates to the incorporation of magnesium in the apatite lattice. In an early part of the text magnesium is indicated to be an integral part of the crystal lattice; in a further page reference is made to the fact that there is no definite evidence at this time as to whether magnesium is incorporated in, or on the enamel crystals. Also, the text implicates a large number of elements, that are in all probability adventitious, as exerting a cariostatic or potentiating effect on dental disease. This tends to diffuse some portions of the book.

The scientific quality of this text is for the most part excellent. It has a wealth of information and I recommend it to students of hard tissues, to those interested in dental caries and the role of trace elements in hard tissue metabolism.

*This book was reviewed by
Dr. Gordon Nikiforuk,
Faculty of Dentistry
University of Toronto*

"SURGERY FOR DENTAL STUDENTS"

Sir Michael Woodruff
Hedley E. Berry

*Blackwell Scientific Publications
Oxford, London, Edinburgh, Boston,
Palo Alto, Melbourne
4th edition*

The three previous editions of this text were not available to examine to see what changes have been made. The authors state that the text is concerned primarily with the needs of the undergraduate dental student in relationship to surgery and to prepare them for fellowship in the various Royal Colleges of dentistry.

The text is divided into 21 chapters covering the spectrum of surgical physical diagnosis and examination.

I struggled my way through the 338 pages of this text with the growing conviction that

the book is only suitable as a general reference guide or one that superficially delves into major diseases that may affect dental practice. The treatment of the subject material is shallow and offers little concrete substance to the serious student of physical diagnosis.

The method of teaching undergraduate medicine and surgery to undergraduate North American dental students varies considerably from the approach selected in this text. I feel that I could not recommend this text for inclusion in any dental school curriculum in Canada or the United States and that its use may be as a reference text acquainting dental students with the broader aspect of medical and surgical practice.

*This book was reviewed by
Dr. E.L. McInnis,
Halifax, N.S.*

THE DENTAL CLINICS OF NORTH AMERICA (DENTOFACIAL TRAUMA, 7/82)

Dr. Norman Levine

*W.B. Saunders Co.,
Toronto, Ont.*

Dentofacial Trauma is a welcome topic in the well known series, The Dental Clinics of North America. Editor Levine points out that the goal of this volume is to deal with the subject of dentofacial trauma in its entirety, in order to bring together areas of concern which traditionally fall within individual disciplines of dentistry.

A wide range of topics are addressed by fourteen contributors, thirteen of whom are directly associated with the Faculty of Dentistry at the University of Toronto. The fourteenth contributor is a lawyer whose chapter dealing with legal considerations in dentofacial trauma should be read very carefully by all those practitioners who treat traumatic injuries of the facial region.

Ten Cate's chapter on development of the dentofacial complex is excellent. Not only is this subject dealt with in a very interesting relevant style but also the reader is

stimulated to read further in Ten Cate's excellent text book *Oral Histology*, C.V. Mosby 1980.

Levine's chapter on injury to the primary dentition is good reference material to which one should refer from time to time to make sure that the in-office procedural protocol is well organized and complete.

Useful chapters on the effects of trauma to the developing permanent dentition by Torneck, endodontic treatment by Korzen, treatment of dental injuries by both Pulver and Dungy and orthodontic considerations by Dale contain suggestions which the practitioner can incorporate into his own practice.

Stoneman's review of radiology of trauma to the teeth and jaws is well organized and is recommended reading for all clinicians.

Traumatic injuries which result in loss of large amounts of tissue require special attention and it is on this area of treatment which Zarb focuses in his review of maxillofacial prostheses and orofacial trauma.

Weinberg presents a first rate account of surgical treatment of facial fractures which provides a good overview for the general practitioner and the foundation of a systematic approach to the injured patient for the specialist.

In summary, this volume of the *Dental Clinics of North America* will provide pleasant reading and substantial fruit for practitioners who wish to review the broad picture of the treatment of traumatic injuries to the dentofacial complex.

*This book was reviewed by
Dr. D.S. Precious,
Dalhousie University*

THE DENTAL PULP BIOLOGICAL CONSIDERATIONS IN DENTAL PROCEDURES

Samuel Seltzer
I.B. Bender

*J.B. Lippincott
Philadelphia 1984
3rd Edition*

The value of this outstanding book is expressed in the subtitle "Biologic considerations in dental procedures." Dental practice in the end of this century is no longer the empirical exercise it was fifty years ago. The modern up-to-date practitioner is making himself aware of the biological occurrences that underlie most of the procedures used today in achieving oral health for the patient.

It is not often that a book is found fulfilling the function of student text and graduate clinicians guide. It reads well and the

illustrations are excellent. The authors have included many new scanning electron micrographs which give that third dimension which tells the reader so much more than words can ever hope to achieve. There are also some new drawings that greatly enhance the difficult area of pulpal inflammation and infection. The chapter on nerve supply of the pulp has been brought right up to and including the most recent work in this area. It is a most refreshing thing to see this attitude by authors in their third edition.

The book achieves an excellent ending in the last three chapters where the histologic significance of clinical signs and symptoms are explained and tied together. This is an invaluable service to the clinician in helping him or her to achieve a reasonable prognosis from the patient's clinical appearance. There is no technical mumbo-jumbo here, it is succinct and readable. This book should be on the shelf of all general practitioners interested in resolving the age old question "what's happening here?"

*This book was reviewed by:
Dr. Pierre R. Dow
Dept. of Restorative Dentistry
Faculty of Dentistry
University of British Columbia
Vancouver, B.C.*

THE DENTAL OFFICE: A PICTORIAL HISTORY

Richard A. Glenner

*Missoula, Montana:
Pictorial Histories Publishing Co.
1984. pp. 146 + xi, 250 illustrations.
Price: \$9.95. U.S.*

The history of the dental profession suffers from a dearth of interest and, consequently, there are few publications related to this fascinating and much neglected aspect of the profession's perspectives. Accordingly, the appearance of a new book devoted to tracing the changing fashions and armamentaria of the habitat of the working dentist is to be warmly welcomed.

The current picture book arose from a series of articles published by the author in the *Journal of the American Dental Association* between 1973 and 1975. The result is a collection of 10 chapters depicting an array of topics ranging from the locale of dental practice — the "dental office", through heavy furniture and equipment to the enormous variety of intricate instruments that dentists employ in the conduct of their profession. Thus, chapters are devoted to dental chairs, cabinets, units, spittoons, lights, x-rays and instruments.

The large format of the book (8½" x 11") approaches "coffee-table book"

dimensions, allowing for an attractive lay-out of pictures on good quality paper. Interspersed between the varied-sized unnumbered pictures are short captions and brief commentaries, providing a "potted history" of the artefacts of the profession. As such, it provides light reading with no great intellectual demands, and is a pleasant way to acquire an historical insight and become acquainted with many intriguing aspects of the profession's past that rivals many romantic stories.

The ingenuity of early dentists in devising instruments to overcome the problems of dental disease (and what their patients must have suffered at their hands!) comes vividly to life when perusing these pages of pictorial history. The history of the dental profession reflects as much the socio-economic environment in which pain alleviation was practised as the scientific progress that has so dramatically changed the perception and practice of the profession. The days of the blacksmiths, barber-surgeons and the charlatans practising "dentistry" are recreated in these pages, as are the difficulties of dental operations for both the patient and the practitioner.

The elegance of elaborate artistry of the baroque Victorian period is reflected in the carved cabinets and ornate, ivory-handled instruments of the mid-19th century dentist when sterility (of instruments!) was unknown, to be rapidly replaced by the coldly sterile and intimidating clinical surgeries of the Edwardian era following Lister's imprecations for aseptic surgical practice. The early crude design of dental drills and X-ray machines must surely make the modern dentist all the more appreciative of the superbly efficient machines that are used today in daily practice — but unless he has seen what his predecessors had to wrestle with, that appreciation will be lacking.

So, I urge you to read the book as a painless way of acquiring a taste of what has transformed a crude (and cruel) trade of barbaric blacksmith practices into the technically sophisticated profession of today. For the older of us, it will be an indulgence in nostalgia. The lack of references detracts from the scientific and research value of this otherwise excellent work. Further, the absence of an index is frustrating for those seeking the location of a particular item. However, at a price of \$9.95 U.S., even our depreciated Canadian dollar still makes this one of the few book bargains to be found today, and one of the few examples of professional reading that can be enjoyable!

*This book was reviewed by
Dr. G.H. Sperber,
Faculty of Dentistry
University of Alberta*

CDA JOURNAL COVERS CANADA

The producing and printing of a publication is a costly business. As membership dollars are required to support the Journal it is felt that circulation should be limited to CDA supporters only. In February, 1984, the Association stopped issuing copies on a regular basis to non CDA members.

However, the Editorial Board and the Membership Committee agreed that at least one issue a year should be sent to non members. The December issue was chosen as it includes the Annual Index which allows non receivers the opportunity to order back issues containing articles of interest.

This March issue is also being received by all dentists in Canada whether or not they are CDA supporters. Health and Welfare Canada felt the "Executive Summary of the Report of the Working Group on the Practice of Dental Hygiene" should receive blanket distribution. Using the Journal as a delivery vehicle is cost effective, saving considerable dollars when compared with a first-class mailing.

The Membership Committee was pleased to agree to this presentation. With this decision, once more, CDA members provide Canada's dentists with timely information.

CHAIRMAN STARTS ANOTHER CAREER

Dr. Ralph Crawford, Immediate Past President of CDA and Chairman of the Membership Committee, has agreed to provide the Journal with a regular column called "Did You Know?"

Dr. Crawford initiated the President's Column which gives CDA's chief officer a chance to share some thoughts with the members.

Prompted by members' enquiries, the intent of the new column is to present information on various areas of concern. Questions and topic suggestions are welcome from our readers.

NEWS INFO RECRUTEMENT
CDA MEMBERSHIP NEWS
NEWS INFO RECRUTEMENT
CDA MEMBERSHIP NEWS 1

LE JOURNAL DE L'ADC COUVRE LE CANADA

La production et l'impression d'une publication est une opération coûteuse. Étant donné que les cotisations servent à produire le Journal, nous avons cru que sa circulation devrait se limiter aux membres de l'ADC seulement. En février 84, l'Association cessait son envoi régulier d'exemplaires aux non-membres de l'ADC.

Cependant, le comité de Rédaction et le comité de Recrutement ont convenu qu'au moins une fois par année, un numéro du Journal devrait être envoyé aux non-membres. L'édition de décembre était choisie car elle contenait l'index annuel, lequel donne aux non-abonnés l'opportunité de commander les numéros contenant les articles qui leur semblent particulièrement intéressants.

Le numéro de mars est aussi envoyé à tous les dentistes du Canada, qu'ils soient membres ou non de l'ADC. Santé et Bien-être Social Canada croit que le document sommaire « Rapport du groupe de travail sur l'exercice de l'hygiène dentaire au Canada » doit faire l'objet d'une large diffusion. L'utilisation du Journal comme moyen de transmission est vraiment avantageux; il permet d'épargner une somme considérable par rapport aux tarifs d'envoi de première classe.

Le comité du Recrutement était heureux d'accéder à cette démarche et de vous faire parvenir gracieusement cet exemplaire. Par cette décision, encore une fois, l'ADC fournit aux dentistes du Canada l'information en temps opportun.

LE PRÉSIDENT DÉBUTE UNE NOUVELLE CARRIÈRE

Dr. Ralph Crawford, président-sortant de l'ADC et président du comité du Recrutement, a accepté de préparer régulièrement pour le Journal un article sous la rubrique « Le saviez-vous? »

Ce fut le Dr. Crawford qui avait pris l'initiative de créer la rubrique « Votre président », laquelle permet au premier magistrat de l'ADC de partager ses préoccupations avec les membres.

Afin de répondre à la demande des membres, cette nouvelle rubrique servira à fournir de l'information sur différents sujets d'actualité. Toutes questions et suggestions de thèmes seront accueillies avec plaisir.

FÉDÉRATION DENTAIRE INTERNATIONALE MEMBERSHIP

In November, 1986, the FDI World Congress will take place in Manila, Philippines. Registrants to the congress must be supporting members of the Federation. To be eligible for supporting membership, Canadian dentists must be members of the Canadian Dental Association.

Your membership fee is your contribution in support of FDI and its efforts to promote improved dental health on a worldwide basis. The subscription fee is \$35 or, in combination with a subscription to the International Dental Journal, \$60. A portion of this fee is used to offset CDA administration expenses and to cover the cost of forwarding the balance to FDI Headquarters in U.S. funds.

Please fill in, clip out and forward the bottom of this page to us (or forward the necessary information in a letter) and we will register you as a FDI supporter.

ADHÉSION À LA FÉDÉRATION DENTAIRE INTERNATIONALE

En novembre 1986, le Congrès mondial de la FDI se tiendra à Manille, Philippines. Les personnes désireuses d'y participer doivent être membres de soutien de cette Fédération. Pour être admissibles comme membres de soutien, les dentistes canadiens doivent être membres de l'Association dentaire canadienne.

Par votre cotisation, vous appuyez la FDI et ses efforts pour améliorer la santé dentaire à l'échelle mondiale. Les frais de cotisation sont de \$35 ou de \$60 si l'on désire en plus s'abonner au Journal dentaire international. Une partie de ce montant couvre les frais d'administration encourus par l'ADC et une autre partie couvre les frais d'administration pour l'envoi de la balance de l'argent à FDI, en argent américain.

Nous vous invitons donc à remplir, détacher et nous faire parvenir le formulaire ci-dessous (ou une lettre explicative s'il y a lieu) et nous vous comptons parmi les membres de soutien de la FDI.

CANADIAN DENTAL ASSOCIATION L'ASSOCIATION DENTAIRE CANADIENNE

1815 ALTA VISTA DRIVE, OTTAWA ONTARIO K1G 3Y6

MEMBERSHIP APPLICATION FÉDÉRATION DENTAIRE INTERNATIONALE

Please register me as a supporting member of the Federation Dentaire Internationale. I understand that for:

_____ \$35 — I will be registered as a supporting member of FDI and I will receive a membership card and the Quarterly FDI newsletter.

_____ \$60 — I will be registered as a supporting member, I will receive a membership card, the Quarterly Newsletter and I will have a subscription to International Dental Journal.

DEMANDE D'ADHÉSION — FÉDÉRATION DENTAIRE INTERNATIONALE

Veuillez s'il vous plaît me considérer comme membre de soutien de la Fédération dentaire internationale. Je comprends bien que pour:

_____ \$35 — Je deviendrai membre de soutien de la FDI et que je recevrai une carte de membre et le bulletin trimestriel.

_____ \$60 — Je deviendrai membre de soutien de la FDI, je recevrai une carte de membre, le bulletin trimestriel ainsi qu'un abonnement au Journal dentaire international.

NAME/NOM: _____

ADDRESS/ADRESSE: _____

CDA MEMBER NUMBER/NUMÉRO DE CARTE DE MEMBRE DE L'ADC: _____

Specialty Features

THE PRACTICE OF DENTAL HYGIENE IN CANADA DESCRIPTION, GUIDELINES AND RECOMMENDATIONS EXECUTIVE SUMMARY REPORT OF THE WORKING GROUP ON THE PRACTICE OF DENTAL HYGIENE PART ONE

THIS IS A REPORT TO THE FEDERAL GOVERNMENT FROM A WORKING GROUP OF EXPERTS IN THE FIELD. THE REPORT WAS APPROVED BY ALL MEMBERS. HOWEVER, IT DOES NOT REPRESENT A POLICY STATEMENT OF THE FEDERAL GOVERNMENT OR OF THE NATIONAL PROFESSIONAL ASSOCIATIONS WHICH NOMINATED THE MEMBERS.

INTRODUCTION

The Working Group on the Practice of Dental Hygiene was formed in 1981 by the Department of National Health and Welfare, Canada. It is composed of eight dental hygienists and five dentists, nominated by national professional organizations such as the Canadian Dental Hygienists' Association, the Canadian Dental Association and the Canadian Society of Public Health Dentists. The members come from widely diverse backgrounds including private practice, community health, hospitals, and dental and dental hygiene education. They also represent all major geographic regions and both official Canadian language groups — English and French.

The working group has met so far over a

period of approximately five years. It recommended to Health and Welfare, Canada, that two additional committees be established: the Sub-Committee on Research and the Advisory Committee on the Development of Clinical Practice Standards for Dental Hygienists. The Sub-Committee on Research, composed of seven dental hygienists and two dentist-researchers, was formed in 1982. In cooperation with the University of Manitoba School of Dental Hygiene, the Sub-Committee organized the first conference on dental hygiene research to be held anywhere, world-wide. The conference was held September 30 — October 1, 1982 in Winnipeg. The Advisory Committee on the Development of Clinical Practice Standards for Dental Hygienists was established in 1983 when it became clear that the issue of practice standards was of such magnitude and complexity that it could not be developed adequately by the working group. The advisory committee includes dental hygiene and dental educators and researchers, practising dental hygienists, and two research methodologists. The results of its study, after being reviewed by the main working group, will be published as part two of the working group report.

The objectives of the Report of the Working Group on the Practice of Dental Hygiene,

Part One are: to provide a basic description of the practice of dental hygiene in Canada, to identify major studies and references in this field, to describe major issues of current concern and to suggest principles for consideration in the future study of these issues, to identify other areas for further research and study, and to make recommendations.

Dental hygiene originated as a health occupation in the United States in 1907. The initial impetus for the establishment of dental hygiene in Canada came from public health in the late 1940s, although employment opportunities in private practice soon followed. Legal recognition of dental hygiene as a health occupation by provincial and territorial authorities in Canada occurred as follows: Quebec — 1946, Ontario — 1947, Saskatchewan — 1948, Prince Edward Island — 1950, British Columbia — 1951, Manitoba — 1952, New Brunswick — 1953, Nova Scotia — 1955, Yukon — 1958, Alberta — 1959, Northwest Territories — 1967, and Newfoundland — 1968.

The two most influential phenomena in the development of dental hygiene since the end of World War II have been the expansion of dental hygiene world-wide with it now existing in more than 50 countries, and the investigation of extended functions for



1. Margery G.E. Forgay (Chair)



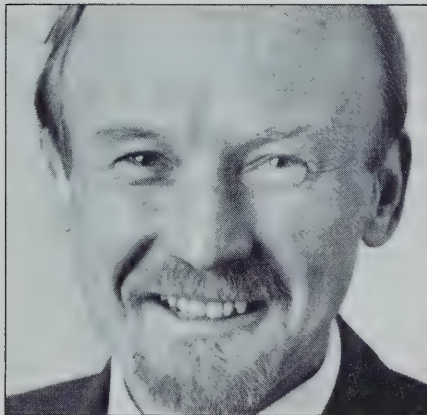
2. Sharon B. Amer (Coordinator)



3. John Christie (Observer)



4. Joanne Clovis



5. Roger L. Ellis



6. Sylvie Fréchette

dental hygienists, resulting in significant changes in practice in some jurisdictions. There are now approximately 75 000 dental hygienists throughout the world with some 6000 of those located in Canada.

Professional Associations

In Canada, the development of professional dental hygiene organizations began in the early 1960s. The Canadian Dental Hygienists' Association was officially constituted in 1965, representing dental hygiene organizations from Ontario, Nova Scotia, Alberta and Manitoba. By 1978, the Canadian Dental Hygienists' Association represented constituent associations in all ten provinces. Incorporated in 1985, the Canadian Dental Hygienists' Association has assumed an influential role in the development of dental hygiene in Canada. Some of its activities have included: presentation of briefs to the federal government Ad Hoc Committee on Dental Auxiliaries (1968) and the Health Services Review Commission (1979), hosting the seventh international symposium on dental hygiene (1979), holding workshops on organizational development, continuing education, dental hygiene education and licensure portability, cooperating with Statistics Canada on the collection of data concerning dental hygienists in Canada, providing financial

assistance for the Conference on Dental Hygiene Research (1982), and helping to fund studies on dental hygiene human resources*.

Education

Basic preparation for dental hygiene practice in Canada has generally been a two-year diploma program. The first dental hygiene education program in Canada was established at the Faculty of Dentistry, University of Toronto in 1951. Classes were small (usually six to eight) until the faculty moved into a larger building in 1961, when the dental hygiene classes increased in size to 50 per year. In 1956 the Canadian Armed Forces began an educational program for dental hygienists. Two university-based dental hygiene programs commenced in 1961, at the University of Alberta and Dalhousie University, followed by programs at the University of Manitoba in 1963 and the University of British Columbia in 1968. Canada's first baccalaureate program in dental hygiene commenced operation at the University of Montreal in 1971, with the second following at the University of Toronto in 1977.

Dental hygiene programs have been located in community colleges since 1972,

when Quebec established programs in six CEGEPs (Colleges d'enseignement général et professionnel). The first community college program in Ontario was established at Algonquin College of Applied Arts and Technology in Ottawa in 1974 followed by 10 other college programs in 1977. In 1979, a one-year program in dental hygiene was established at the Wascana Institute of Applied Arts and Sciences in Regina for persons already qualified as dental therapists.*

The need was identified in the 1960s for Canadian baccalaureate programs in dental hygiene to prepare dental hygiene and dental assisting educators, public health supervisors and consultants, and researchers. A market survey in western Canada in 1983 identified sufficient potential employment opportunities to warrant the establishment of a baccalaureate dental hygiene program in western Canada. Similar surveys in the Atlantic provinces, Quebec and Ontario would assist in determining the need for degree-level dental hygienists in these areas.

The Canadian Dental Association undertook the accreditation of dental hygiene education programs in Canada in 1963 and this

* Dental therapists are educated to provide restorations, extractions and preventive dental services to selected clientele under prescription from a dentist.

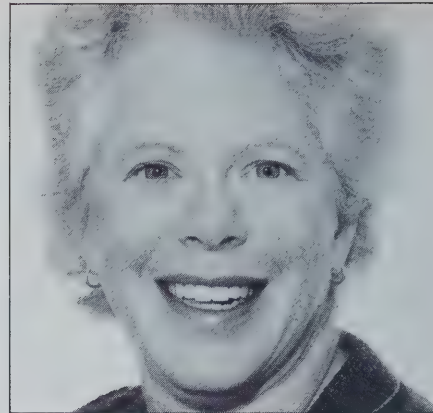
*formerly called manpower



7. Diane Girardin



8. Patricia M. Johnson



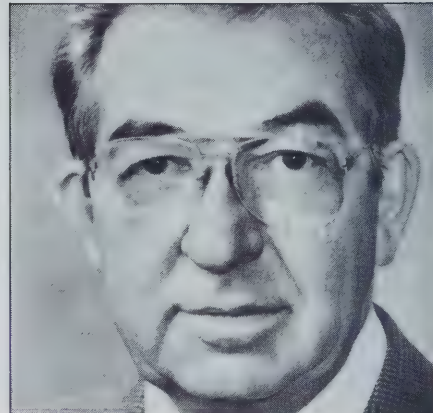
9. Carol Kline



10. Michael H. Lewis



11. Kate MacDonald



12. Chalmers T. McNichol

process is conducted through its Council of Education and Accreditation. Accreditation, although not mandatory, is sought on a voluntary basis by most educational institutions which provide dental hygiene programs, thereby offering their graduates greater national and international portability of credentials.

Continuing education is recognized by Canadian dental hygienists as being necessary throughout one's professional life. In Canada, the participation rate of dental hygienists in continuing education is fairly high. The Canadian Dental Hygienists' Association has played a prominent role in fostering continuing education expertise in its constituent organizations, and has recently surveyed the continuing education requirements to maintain licensure.

Human Resources

In the 1960s, the main human resource issues were the current and projected shortages of dental health personnel.* Factors such as a growing population, greater affluence, and expanding public interest in dental health led to a predicted need for a greatly increased number of dental health

personnel. More dental hygienists and expanded functions for dental hygienists were widely advocated. By the late 1970s the situation had reversed, and concerns expressed now are of a projected surplus of dental health personnel. The number of licensed dentists in Canada nearly doubled in the two decades between 1964 and 1984, (from 6218 to 12 624). Population growth did not keep pace, resulting in a reduction in the population: dentist ratio.

In recent years the number of dental hygienists has grown proportionately faster than the number of dentists, increasing from 165 in 1964 to 5315 in 1984, a more than 30-fold increase. This phenomenal growth was the result of many new dental hygiene education programs being established. By the end of the decade 1972-1982, there were more than three times the number of dental hygienists graduating than there were 10 years earlier. The ratio of dental hygienists: dentists in Canada will change from 4:10 in 1983 to 7:10 in the year 2001 if the present rate of growth continues. At present, dental hygiene graduates experience little difficulty locating employment, with a few exceptions, in spite of concerns expressed about a perceived or actual oversupply of dental hygienists. The decreasing prevalence of dental caries and the identification of periodontal disease as the major

oral condition of the near future in Canada, provide the rationale for maintaining an adequate supply of dental hygienists to meet future oral health needs effectively and efficiently.

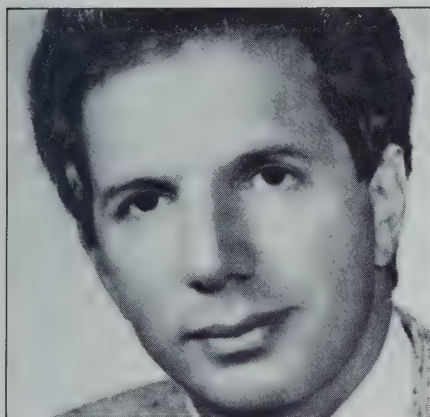
Dental hygienists in Canada are almost all female (98 per cent). Their mean age is just under 30 years. In contrast with some persistent myths, most dental hygienists remain in the workforce for many years, usually leave for only a relatively short time when they have children, most work on a full-time basis, and most work at only one worksite.

Planning for health human resources is a difficult and uncertain endeavour, and many of the outcomes of studies on human resources are determined by the assumptions upon which they are based. Studies on dental human resources have often assumed that the demand for dental care will remain relatively constant, that the existing pattern and prevalence of dental disease will not change greatly, that the delivery of care will remain as at present, and that the types and functions of dental health care providers will not change. Forecasts tend to vary depending upon the reporting agency; however, it should be noted that human resource planning models in the dental field have usually been developed by or for dentists. New models are needed

* Dental health personnel as a classification includes dentists, dental hygienists, dental therapists, dental assistants and other occupations in the dental health field. Dental personnel more correctly refers to dentists although the term has been used in the collective sense.



13. Carole K. Ono



14. Andrew Toeman

incorporating factors such as demographic shifts, changing patterns of dental disease, changing demand for care, increasing productivity, and possible future roles of all dental health personnel in the provision of dental care.

Regulation

The primary purpose of regulating the practice of any health discipline is to protect the interests of the public by ensuring that standards of safety and quality are met. Regulation should serve occupational needs only so far as they correspond to the needs of the public. Nevertheless, a basic problem exists in that occupational groups have two major interests: those of their profession and those of the public, and the two interests are not always compatible.

Many health professions in Canada are self-regulating and yet, with the exception of Quebec, this is not true of dental hygiene. The dental hygiene profession in Canada is usually regulated under dental practice acts administered by dental boards. Representation of dental hygienists on these bodies is minimal or in some cases altogether lacking. Regulation has become a major issue in dental hygiene because the profession is not only regulated by another group — one representing the employers of dental hygienists — but is considered by many,

such as community health officials and long-term care providers, to be over-regulated. In many provinces, as in many states of the United States, dental hygiene organizations are expressing a need for the profession to achieve self-regulation. This is not only a result of the growing maturation of dental hygiene as a health profession, but is consistent with the principle that it is inappropriate for one occupational group to regulate another. This viewpoint has been expressed frequently by government committees, economists and other authors and is discussed in the main report.

At the national level the primary regulatory issue in dental hygiene is the portability between provincial and territorial jurisdictions of licensure and other occupational credentials. Canadian society has become increasingly mobile, and the ability of dental hygienists to move from one area of the country to another without losing the opportunity to practise dental hygiene is a major concern. Nine of 10 provinces as well as the two territories ensured portability for graduates prior to 1980. This has since been reduced to 8 out of 10 provinces with the territories still allowing portability. Steps are being taken to improve this situation of reduced portability.

At the provincial level the primary regulatory issue concerning dental hygienists at present is that of supervision. In most jurisdictions, dental hygienists are required to work under the supervision of a dentist, and the interpretation of the term 'supervision' by the regulating dental bodies is such that the presence of a dentist at the worksite is required. The exception to this situation is British Columbia. It is also usual practice in public health situations for dental hygienists to work without on-site supervision by a dentist. Public health dental hygiene practice, and private practice in British Columbia and several of the states in the United States where on-site supervision is not required, have demonstrated over several decades that a general rather than on-site level of supervision is compatible with the interests of health and safety for the public.

Strict supervision requirements do not give recognition to the educational preparation and clinical competence of dental hygienists, to their status as licensed health care providers, or to the nature of work in which they are engaged. The requirement of on-site supervision for dental hygienists is not only inconsistent with supervision requirements for other health professions in Canada, but it restricts the availability of needed preventive dental health services in locations such as institutions and other sites which do not require the full-time services of a dentist.

Many present structures and regulations concerning dental hygiene practice are

overly restrictive. It is in the best interests of the public that changes be introduced in the areas of self-regulation, portability, and supervision requirements. These changes in the regulation of dental hygiene would increase the public's access to preventive dental health services and reflect the level of responsibility which dental hygienists should assume by virtue of their education and licensure.

Dental Hygiene Practice

Dental hygiene practice consists of prevention-oriented educational, clinical, and therapeutic measures provided by a dental hygienist in order to promote optimal oral health and thus contribute to the total health of the public. Dental hygiene practice is easier to understand if it is viewed as a process rather than as a set of specific tasks. With this purpose in mind, the Working Group on the Practice of Dental Hygiene has developed a schematic model of dental hygiene practice. The model, adapted from nursing and community health models, shows the inter-relationships of the functions of assessment, planning, implementation and evaluation, the environment within which practice occurs, and activities and structures which ensure quality of service.

For many years after its inception, the practice of dental hygiene evolved rather slowly, but during the 1960s and the 1970s rapid and extensive changes occurred. There was much discussion and concern, not only with the functions which should be included in dental hygiene practice, but also with the variety of practice settings and the range of responsibility and decision-making appropriate for dental hygienists.

A variety of dental hygiene practice settings exist in Canada today. 'Traditional' settings include private dental practice (general and specialty practice in solo and group practice arrangements), community health (federal, provincial, regional and municipal government programs), educational institutions, the Armed Forces and hospitals. A group of dental hygiene practice settings which are found in Canada to a much more limited extent (and are sometimes characterized as 'emerging') include: alternative private practice arrangements (e.g. multi-location group practices, retail centres), institutions other than hospitals (e.g. correctional institutions), community settings other than schools (e.g. day care and seniors centres) the dental industry, union and corporate dental clinics, and research institutions. Dental hygiene practice settings found in the United States but not in Canada include health maintenance organizations, oral hygiene clinics and dental hygiene practices.

The majority of dental hygiene positions in Canada are in private dental practice (82 per cent). Community health settings account for about 10 per cent of positions and post-secondary educational institutions for more than five per cent. Positions in all other practice settings account for slightly over two per cent of the total.

The services dental hygienists provide can be categorized into five major areas: clinical services, dental health education, teaching of students in the dental health field, administration, and other services such as research and consulting. Dental hygienists in private practice devote over 75 per cent of their time to clinical activities particularly preventive periodontal procedures and just under 20 per cent to dental health education. Dental hygienists in community health spend more than 50 per cent of their time on dental health educational services, almost 25 per cent on clinical services, and just about 20 per cent on administration and other service responsibilities. Dental hygienists employed in post-secondary educational institutions spend more than 50 per cent of their time teaching students in the dental health field, almost 15 per cent on administrative responsibilities, and just less than 10 per cent on clinical and dental health educational activities combined.

Dental hygiene practice as it evolves in each of the major practice settings will be subject to varied and distinct influences, making projections difficult. However, certain trends appear likely.

Private dental practice will most likely remain the most common workplace for dental hygienists in Canada. The effect on dental hygiene practice of the development of non-traditional dental practice sites such as retail centres and satellite clinics, and alternative methods of financing such as capitation, have yet to be determined. The most influential factors affecting dental hygiene practice in private dental practice today are the supervising dentist's perception of the dental hygienist, the regulatory requirements, and the perceived over-supply of dental health personnel. As the focus of health shifts to considerations of wellness and self-care, the role of the dental hygienist in health promotion and the prevention of dental disease could become more significant. Although dentistry in general has been somewhat reluctant to recognize the potential of dental hygiene as an emerging health profession, the official positions of organized dentistry are undergoing some review and restatement at the present time. These changing perspectives may well foster the development of a more collaborative approach to dental health care, in which dental hygienists are considered knowledgeable about their field and able to make decisions about clinical dental hygiene

procedures within the scope of dental hygiene practice.

Over-regulation, as it currently exists, restricts the availability and scope of dental hygiene services. A perceived over-supply of dental health personnel could possibly have a profound effect on the availability of, and the nature of, employment for dental hygienists. If the response to a perceived surplus of dental care providers by the dental health professions together is to search for ways to increase the demand for dental care to more closely match the needs of those persons who presently receive insufficient care, employment opportunities for dental hygienists likely will increase. This will be the result of three factors: dentists may increasingly employ dental hygienists as their practices become busier, alternative employment opportunities may emerge as organized dentistry (which through its regulatory and other powers defines many of the employment opportunities for dental hygienists) seeks to make private dental practice sites more accessible to a wider range of clientele, and third, greater recognition of the cost-effectiveness of dental hygienists providing preventive services may result in increasing employment for dental hygienists. Recent thinking would conclude that the answer to the over-supply problem of dental health personnel is not to restrict the employment of dental hygienists. It is hoped that the dental health professions will take a constructive and collaborative approach such as the one indicated earlier.

Public practice settings for dental hygienists include community health and institutions. Community health dental hygienists provide a broad range of services in health education and promotion, clinical practice, health program development, consulting, administration, evaluation and research. Their client groups are primarily school children and pre-school children. Nevertheless, adults, expectant parents, the handicapped and the elderly are becoming major client groups as the Canadian population changes and needs are being reassessed.

Factors influencing future roles for dental hygienists in community health include the relative supply of human resources, the development of suitable post-diploma degree programs in dental hygiene, modification of restrictive legislation, the extent to which community health programs are developed, the establishment of community health program standards and the changing oral health status of Canadians.

Institutional practice settings, in addition to acute care hospitals, include long-term care and correctional institutions. Long-term care institutions include chronic care and rehabilitative/convalescent facilities for such client groups as the emotionally dis-

turbed, the mentally or physically handicapped, and elderly persons with medical disabilities. At present, dental hygienists are employed in all of these practice settings to some degree; however, many more responsibilities could be assumed by dental hygienists in institutional settings with the adoption of appropriate supervisory regulations.

Approximately five per cent of Canadian dental hygienists in 1983 were employed in post-secondary education programs for students in the dental health field and the actual numbers will probably remain relatively constant for the foreseeable future. In these settings, dental hygienists function as academic and clinical teachers, program coordinators, administrators and researchers. Most dental hygiene educators have credentials at the baccalaureate level or beyond, the exception at this time being those in the community colleges of Ontario.

The Canadian Forces Dental Services employs about 70 dental hygienists. Most have received their educational preparation in the Canadian Forces Dental Services School at Base Borden, Ontario, but in recent years employment has also been offered to dental hygienists from accredited civilian programs. Research, the dental industry, and industrial and union dental clinics also provide a few practice opportunities at present for dental hygienists.

Influencing Factors

Many factors will influence the development of dental hygiene in Canada in future years. The need for dental hygiene services will be greatly affected by the demographic shift to a more elderly population, combined with a changing pattern of dental disease. Dental caries rates are declining in developed countries such as Canada. This means that more people will retain their natural teeth throughout life, providing their periodontal health can be maintained. These phenomena will result in a greater need for the services which dental hygienists provide. Increased affluence and education will also produce more demand for preventive dental health services.

Health and Welfare Canada reports that dental services account for approximately six per cent of the total expenditures (public and private) for health care. While most of the dental care expenditures occur within the private sector, in recent years prepaid dental insurance and tax-supported dental care plans have assumed increasing importance. Both systems of financing dental care may result in an increased demand for dental hygiene services as ways are sought to provide services of comparable quality at lower cost than those presently provided and to contain the escalation of these costs by emphasizing preventive care. Restrictive

regulations which limit access by the public to preventive services provided by dental hygienists have been identified as one factor in the increasing costs of dental health care.

A positive relationship with the dental profession is of paramount importance to dental hygiene. Most of the interactions between the two groups may be categorized under employment, regulation and professional associations. In spite of some understandable strains between dentistry and dental hygiene, the role of the dental hygienist in the provision of dental health care will remain closely linked with dentistry. The interests of both groups and of the public will be best served by continuing and effective collaboration between dental hygiene and dentistry. Some changes in the traditional relationship between the two groups have been suggested: greater regulatory autonomy for dental hygiene, more flexible working arrangements and functions, less stringent requirements for supervision, and greater recognition of the existing and potential contribution of dental hygienists to improving the dental health of Canadians.

The growth of dental hygiene as a profession has also been influenced and indeed hampered by female/male stereotyping which has been evident in many health professions in past years.

Dental hygiene has been composed almost exclusively of women while the opposite has been true of dentistry — the more senior profession and the profession with the greatest impact on dental hygiene. With the social role changes taking place within Canadian society, the characteristics of dental hygiene which identify it as a female occupation are lessening in conjunction with the rising aspirations of dental hygienists to contribute more fully to the Canadian health care system. This is consistent with

the evolution of other emerging health professions such as physiotherapy and occupational therapy.

With the considerable growth and maturation of dental hygiene over the past decade, a debate has evolved over the question of whether or not dental hygiene is indeed a profession. Professionalization is a process whereby certain characteristics of a group become more and more like those of a profession, including the development of educational standards and practice standards, increasing participation in research, and the desire for a greater degree of self-regulation. The presence of these characteristics, together with the identification of dental hygiene practice as a process of care rather than a list of functions, identifies dental hygiene as an occupation undergoing professionalization. At the present time, dental hygiene could be classified as an intermediate-level profession.

Dental hygiene has changed markedly since its beginning in 1907, and especially since the end of World War II. Dental hygiene is certainly an important element in the dental health services delivery system and as dental health care is regarded more clearly as an essential health service in Canada, then dental hygiene has the potential to play an even greater role in the future.

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Copies of the executive summary including the recommendations may be obtained in English and French from: Ms. S.B. Amer, Adviser, Dental Health Standards, Health Services Directorate, Department of National Health and Welfare, Canada, Ottawa, Ontario, K1A 1B4. The full report, part one, will be available in late 1986 and part two in 1988.

NOTE TO OUR READERS

This issue of the Journal of the Canadian Dental Association is being distributed to all of the dental profession in Canada. Of particular interest in this issue is the article which you have just read. Over the next year there will be many items published in the Journal which will be of interest to all of Canada's dentists. To receive the Journal, and the information in it regularly, become a member of the Canadian Dental Association.

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L'EXERCICE DE L'HYGIÈNE DENTAIRE AU CANADA

HISTORIQUE, ORIENTATIONS ET RECOMMANDATIONS
SOMMAIRE RAPPORT DU GROUPE DE TRAVAIL SUR
L'EXERCICE DE L'HYGIÈNE DENTAIRE AU CANADA
TOME I

CE RAPPORT EST ADRESSÉ AU GOUVERNEMENT FÉDÉRAL PAR UN GROUPE DE TRAVAIL SUR L'EXERCICE DE L'HYGIÈNE DENTAIRE REGROUPANT DES EXPERTS DANS LE DOMAINE DE LA SANTÉ DENTAIRE. LE RAPPORT A ÉTÉ APPROUVÉ PAR TOUS LES MEMBRES. CEPENDANT, IL NE CONSTITUE PAS UNE PRISE DE POSITION NI DU GOUVERNEMENT FÉDÉRAL NI DES ASSOCIATIONS PROFESSIONNELLES NATIONALES AYANT RECOMMANDÉ LA NOMINATION DES MEMBRES DU GROUPE DE TRAVAIL EN QUESTION.

INTRODUCTION

Créé en 1981 par le ministère de la Santé nationale et du Bien-être social, le Groupe de travail sur l'exercice de l'hygiène dentaire se compose de huit hygiénistes dentaires et de cinq dentistes nommés par des organisations professionnelles telles que l'Association canadienne des hygiénistes dentaires, l'Association dentaire canadienne et la Société canadienne des dentistes de santé publique. Les membres pro-

viennent de différents milieux, notamment les cabinets dentaires privés, la santé communautaire, les hôpitaux, les écoles d'art dentaire et d'hygiène dentaire. Ils représentent également toutes les régions géographiques ainsi que les deux groupes linguistiques officiels du pays.

Le Groupe de travail s'est réuni à plusieurs reprises depuis cinq ans et a formé deux autres comités: le Sous-comité sur la recherche et le Comité consultatif sur l'élaboration des normes relatives à l'exercice clinique de l'hygiène dentaire. Le Sous-comité sur la recherche, formé en 1982, composé de sept hygiénistes dentaires et de deux dentistes, a organisé de concert avec l'École d'hygiène dentaire de l'Université du Manitoba, la première conférence sur la recherche en hygiène dentaire, tenue les 30 septembre et 1^{er} octobre 1982 à Winnipeg.

Le Comité consultatif sur l'élaboration des normes relatives à l'exercice clinique de l'hygiène dentaire, formé en 1983, compte des enseignants et des chercheurs en hygiène et en médecine dentaire, des hygiénistes dentaires praticiens et deux méthodologistes de la recherche. Le Comité doit étudier les normes d'exercice clinique de l'hygiène dentaire, question complexe d'une grande importance. Les conclusions de son étude, après avoir été révisées par

le Groupe de travail, constitueront le tome II du rapport du Groupe de travail.

Le tome I du rapport du Groupe de travail sur l'exercice de l'hygiène dentaire vise les objectifs suivants: fournir une information descriptive sur l'hygiène dentaire au Canada; répertorier les principaux ouvrages et études dans ce domaine; décrire les principales questions de l'heure et proposer des principes directeurs pour leur étude; cerner des secteurs de recherche et soumettre des recommandations.

La discipline et la science de l'hygiène dentaire ont vu le jour aux États-Unis, en 1907. Au Canada, les autorités sanitaires publiques ont donné naissance à ce mouvement à la fin des années 40 et des débouchés dans les cabinets dentaires privés n'ont pas tardé à s'ouvrir. L'hygiène dentaire est reconnue légalement depuis 1946 au Québec, 1947 en Ontario, 1948 en Saskatchewan, 1950 à l'Île-du-Prince-Édouard, 1951 en Colombie-Britannique, 1952 au Manitoba, 1953 au Nouveau-Brunswick, 1955 en Nouvelle-Écosse, 1958 au Yukon, 1959 en Alberta, 1967 dans les Territoires du Nord-Ouest, et, finalement, depuis 1968 à Terre-Neuve.

Les deux phénomènes majeurs qui ont influencé le développement de l'hygiène dentaire depuis la fin de la Seconde Guerre



1. Margery G.E. Forgay (Présidente)



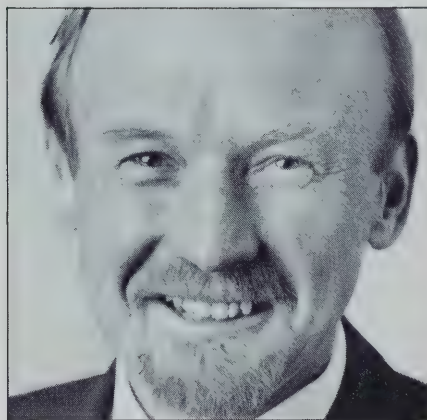
2. Sharon B. Amer (Coordinatrice)



3. John Christie (Observateurs)



4. Joanne Clovis



5. Roger L. Ellis



6. Sylvie Fréchette

mondiale ont été d'une part, l'expansion de l'hygiène dentaire dans plus de 50 pays, et d'autre part, l'étude des fonctions élargies, entraînant des changements importants au niveau de l'exercice dans certaines régions. On compte actuellement près de 75 000 hygiénistes dentaires dans le monde dont 6000 au Canada.

Associations professionnelles

Au Canada, la constitution des organismes professionnels d'hygiène dentaire a débuté vers les années 60. L'Association canadienne des hygiénistes dentaires a été constituée officiellement en 1965 et représentait les organismes d'hygiène dentaire de l'Ontario, de la Nouvelle-Écosse, de l'Alberta et du Manitoba. En 1978, cette Association représentait les associations constituantes des dix provinces. Elle a contribué largement au développement de l'hygiène dentaire au Canada. Au nombre de ses activités, mentionnons la présentation de mémoires au Comité fédéral ad hoc sur les auxiliaires en art dentaire (1968) et à la Commission de révision des services de santé (1979); l'organisation du septième Colloque international sur l'hygiène dentaire (1979); la tenue d'ateliers sur le développement organisationnel, l'éducation permanente, l'enseignement de l'hygiène dentaire

et la transférabilité des permis d'exercice; la collaboration avec Statistique Canada pour la collecte de données sur l'hygiène dentaire au Canada; l'octroi d'une aide financière à la Conférence sur la recherche en hygiène dentaire (1982) et l'aide en vue du financement des études sur la main-d'oeuvre en hygiène dentaire.

Formation

Pour exercer l'hygiène dentaire au Canada, il faut en général avoir suivi un programme de deux ans menant à un diplôme. La Faculté d'art dentaire de l'Université de Toronto a mis sur pied en 1951 le premier programme d'enseignement de l'hygiène dentaire. L'effectif initial restreint (de 6 à 8 étudiants) est passé à 50 nouveaux étudiants par année lorsque la Faculté a emménagé dans un immeuble plus grand. Les Forces armées canadiennes ont commencé à former des hygiénistes dentaires en 1956. Des programmes d'hygiène dentaire ont vu le jour successivement, en 1961 à l'Université de l'Alberta et à l'Université Dalhousie, en 1963 à l'Université du Manitoba, et en 1968 à l'Université de la Colombie-Britannique. Le premier programme de baccalauréat en hygiène dentaire a débuté en 1971, à l'Université de Montréal; le second, en 1977, à l'Université de Toronto.

En 1972, le Québec établissait des programmes dans six Collèges d'enseignement général et professionnel (CEGEP). Par la suite en 1974, l'Ontario offrait un programme d'hygiène dentaire au Collège Algonquin. En 1977, dix autres programmes étaient offerts dans des collèges communautaires ontariens. En 1979, un programme d'un an en hygiène dentaire, à l'intention des thérapeutes dentaires, débutait au Wascana Institute de Regina.*

Dans les années 60, on reconnaissait la nécessité de créer au Canada des programmes de baccalauréat en hygiène dentaire pour préparer des enseignants en hygiène dentaire ou en assistance dentaire, des coordonnateurs et des experts-conseils en matière de santé publique ainsi que des chercheurs. En 1983, une étude de marché dans l'ouest du pays a permis de cerner des débouchés éventuels suffisants pour justifier la création d'un programme menant à un baccalauréat en hygiène dentaire dans cette région. Des études similaires pourraient permettre de préciser le besoin en hygiénistes dentaires bacheliers dans les provinces de l'Atlantique, du Québec et de l'Ontario.

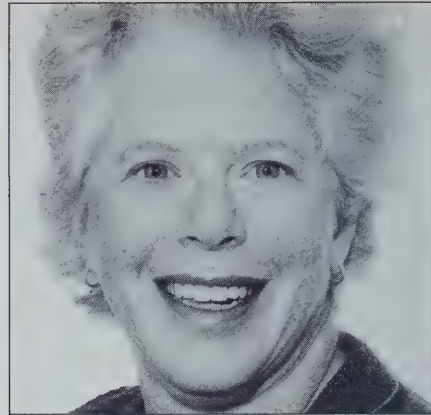
* Les thérapeutes dentaires ont pour mission d'assurer la restauration, l'extraction et des services dentaires préventifs à une clientèle choisie sur les conseils d'un dentiste.



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11. Kate MacDonald



12. Chalmers T. McNichol

Depuis 1963, l'Association dentaire canadienne accrédite les programmes canadiens d'enseignement d'hygiène dentaire par le biais de son Conseil de l'éducation et de l'agrément. L'agrément n'est pas obligatoire, mais les écoles d'hygiène dentaire le recherchent d'emblée. Une entente de réciprocité existe entre les autorités canadiennes et américaines chargées de l'agrément en matière d'hygiène dentaire, ce qui permet à leurs diplômés de pouvoir faire reconnaître plus facilement leurs titres professionnels au niveau national et international.

Les hygiénistes dentaires canadiens reconnaissent l'utilité et la nécessité de l'éducation permanente. D'ailleurs, un grand nombre d'entre eux poursuivent des programmes d'éducation permanente. Dans cette optique, l'Association canadienne des hygiénistes dentaires a encouragé ses organisations constituantes à mettre l'accent sur l'éducation permanente; elle a également fait enquête récemment sur les besoins en éducation permanente des hygiénistes dentaires qui vivent dans les régions éloignées des centres d'éducation. Deux provinces, la Colombie-Britannique et la Saskatchewan, exigent que leurs hygiénistes dentaires suivent des cours d'éducation permanente pour continuer à exercer.

Main-d'oeuvre

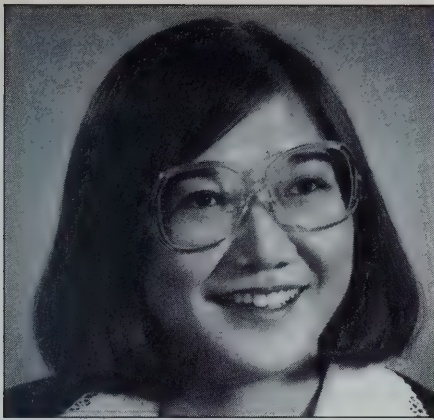
Dans les années 60, on s'inquiétait de pénuries de personnel dentaire. Même si le terme sert à décrire surtout les dentistes, il est également utilisé pour décrire l'ensemble de groupes professionnels dans le domaine dentaire.* En raison de facteurs tels que la croissance démographique, l'amélioration du niveau de vie et l'intérêt grandissant du public pour la santé dentaire, on prévoyait un besoin accru de professionnels dentaires. On préconisait une augmentation de l'effectif des hygiénistes dentaires et l'élargissement de leurs fonctions. Vers la fin des années 70, la situation étant complètement changée, on s'inquiétait dorénavant d'un surplus projeté d'hygiénistes dentaires. Le nombre des dentistes autorisés au Canada a plus que doublé de 1964 à 1984, passant de 6218 à 12 624. La croissance démographique n'a pas suivi la même évolution, entraînant une baisse du rapport population: dentiste.

Le nombre d'hygiénistes dentaires s'est accru proportionnellement plus vite que celui des dentistes, passant de 165, en 1964, à 5315 en 1984, soit une augmen-

* Le personnel dentaire inclut les dentistes, les hygiénistes dentaires, les thérapeutes dentaires, les assistantes dentaires et autres.

tation de plus de trente fois du nombre initial. Cette croissance phénoménale est attribuable à la création de nombreux programmes d'enseignement de l'hygiène dentaire. Entre 1972 et 1982, le nombre de diplômés en hygiène dentaire a triplé. Les rapports hygiénistes dentaires: dentistes au Canada passeront de 4:10, en 1983, à 7:10 en 2001 si le taux de croissance actuel se poursuit. En dépit des inquiétudes concernant un excédent éventuel d'hygiénistes dentaires, les diplômés en hygiène dentaire ne rencontrent presque pas de difficultés à se trouver un emploi. La diminution enregistrée dans la prévalence de caries dentaires et l'identification des parodontopathies comme étant le principal problème de santé bucco-dentaire, justifient le maintien d'une main-d'oeuvre d'hygiénistes dentaires suffisante pour répondre de façon efficace et efficiente aux besoins futurs de santé dentaire.

Les hygiénistes dentaires au Canada sont en grande majorité de sexe féminin (98 pour cent). Elles sont âgées, en moyenne d'un peu moins de 30 ans. Contrairement à certains mythes tenaces, la plupart des hygiénistes dentaires demeurent longtemps sur le marché du travail; elles le quittent en général pour une période relativement courte reliée à la maternité; elles travaillent



13. Carole K. Ono



14. Andrew Toeman

à temps plein et exercent leur profession dans un seul lieu de travail.

La planification de la main-d'oeuvre n'est pas une science exacte et les prémisses des études sur la main-d'oeuvre peuvent en déterminer les conclusions. Dans les études sur la main-d'oeuvre dentaire, on présume généralement que la demande de soins dentaires demeurera relativement constante, que l'incidence et la prévalence actuelles de la maladie dentaire ne varieront pas considérablement, que la prestation de soins demeurera à son niveau actuel et que les types et fonctions des dispensateurs de soins dentaires ne changeront pas. Les prévisions varient selon l'organisme qui les fait; les modèles de planification de la main-d'oeuvre dentaire ont presque toujours été élaborés par ou pour des dentistes. Il convient d'avoir des modèles plus perfectionnés, qui tiennent compte des changements démographiques, de l'évolution de la maladie dentaire et de la demande de soins, de l'accroissement de la productivité ainsi que des rôles éventuels de tous les dispensateurs de soins dentaires.

Réglementation

La réglementation de l'exercice de toute discipline de la santé vise à protéger le public en veillant au respect de normes de qualité

et de sécurité. Elle ne devrait servir les intérêts de la profession que dans la mesure où ceux-ci correspondent aux intérêts de la population. Un problème fondamental se pose pour les groupes professionnels lorsqu'il leur faut concilier leurs intérêts particuliers et ceux du public, lesquels ne sont pas toujours compatibles.

Au Canada, plusieurs professions de la santé jouissent de l'autoréglementation. Sauf au Québec, tel n'est pas le cas pour l'hygiène dentaire. En effet les hygiénistes dentaires sont généralement régis par la Loi sur les dentistes et relèvent des ordres de dentistes tout en occupant peu ou pas de sièges au sein de ces organismes. La réglementation est ainsi devenue une question de première importance. La profession est non seulement régie par un autre groupe, en l'occurrence celui qui emploie les hygiénistes dentaires, mais encore elle est trop réglementée. Dans bien des provinces comme dans de nombreux États américains, les organismes d'hygiène dentaire souhaitent pouvoir réglementer eux-mêmes leur profession. Ce point de vue, avancé fréquemment par des comités gouvernementaux, des économistes et autres auteurs, correspond à l'évolution de l'hygiène dentaire en tant que profession de la santé, et à l'idée qu'un groupe professionnel ne doit pas en réglementer un autre.

La transférabilité du permis d'exercice et d'autres titres professionnels d'une région à l'autre du Canada constitue une autre question de réglementation à caractère prioritaire. Malheureusement, au cours des dernières années, la transférabilité du permis d'exercice de l'hygiène dentaire a eu tendance à accuser un recul au Canada. On essaie actuellement de trouver des solutions à ce problème.

La question de la supervision est également des plus préoccupantes pour les hygiénistes dentaires. Sauf en Colombie-Britannique, les hygiénistes dentaires doivent travailler sous la surveillance d'un dentiste présent sur les lieux de travail. Il est cependant courant, en santé communautaire, de voir des hygiénistes dentaires travailler sans la surveillance sur place d'un dentiste. L'exercice de l'hygiène dentaire en santé communautaire, en cabinet privé en Colombie-Britannique, et dans plusieurs États américains où la surveillance sur place n'est pas requise, ont démontré qu'un niveau de surveillance générale préserve la santé et la sécurité du public. Le fait d'imposer une surveillance stricte des hygiénistes dentaires équivaut à ne pas reconnaître leur formation et leur compétence clinique, leur statut de praticiennes autorisées ainsi que la nature du travail qu'elles accomplissent. La surveillance obligatoire sur place des hygiénistes dentaires est non

seulement incompatible avec les exigences de surveillance des autres professions de la santé au Canada, mais elle limite également la dispensation de soins dentaires préventifs dans les établissements qui ne requièrent pas les services d'un dentiste à temps plein.

Un grand nombre de structures et de règlements actuels concernant l'exercice de l'hygiène dentaire sont trop restrictifs et désuets. Dans l'intérêt de l'hygiène dentaire et du public, il y a lieu d'apporter des changements dans les secteurs de l'autoréglementation, de la transférabilité et de la surveillance obligatoire afin d'améliorer l'accessibilité aux services dentaires préventifs et de correspondre au niveau de responsabilité que, de par leur formation et leur autorisation d'exercer, les hygiénistes dentaires peuvent assumer.

Exercice de l'hygiène dentaire

L'hygiéniste dentaire a recours à des moyens préventifs thérapeutiques, cliniques et éducatifs afin de promouvoir l'hygiène bucco-dentaire et contribuer ainsi à préserver la santé du public. On comprend mieux l'exercice de l'hygiène dentaire si on le considère comme étant un processus plutôt qu'une série de tâches délimitées. Dans cet esprit, le Groupe de travail a mis au point un modèle schématique de l'exercice de l'hygiène dentaire. Le modèle, qui s'inspire des soins infirmiers et de la santé communautaire, montre la corrélation existant entre les fonctions d'évaluation, de planification et d'application, le milieu de pratique et les activités et structures qui assurent la qualité du service.

Pendant bien des années, l'exercice de l'hygiène dentaire s'est développée lentement, mais durant les années 60 et 70, des changements rapides et profonds se sont produits. L'exercice de l'hygiène dentaire a fait l'objet de vives préoccupations non seulement à propos des fonctions qui devraient y être incluses, mais également en ce qui concerne les différents milieux d'exercice et l'éventail des responsabilités et des décisions afférentes.

Il existe au Canada différents milieux d'exercice de l'hygiène dentaire. Au nombre des milieux "traditionnels" figurent les cabinets dentaires privés (de pratique générale ou spécialisée, de groupe ou individuelle), les centres de santé communautaire (fédéraux, provinciaux et régionaux), les établissements d'enseignement, les Forces armées et les hôpitaux. Au nombre des milieux de pratique de l'hygiène dentaire qui font leur apparition au Canada figurent d'autres milieux de pratique privée (les cliniques à succursales et les cliniques situées dans des centres commerciaux), des établissements autres que les hôpitaux (les établissements carcéraux), des milieux commu-

nautaires autres que les écoles (les centres de soins de jour et les centres pour personnes âgées), l'industrie dentaire, les cliniques dentaires administrées par des entreprises et des syndicats ainsi que les centres de recherche. D'autres milieux d'exercice existant aux États-Unis mais non au Canada, sont les organisations de préservation de la santé ('health maintenance organizations'), les cliniques d'hygiène bucco-dentaire et les cabinets d'hygiène dentaire.

Au Canada, 82 pour cent des hygiénistes dentaires travaillent en cabinets privés, 10 pour cent en santé communautaire, au-delà de 5 pour cent dans l'enseignement post-secondaire, et un peu plus de 2 pour cent dans les autres milieux d'exercice.

L'hygiène dentaire regroupe cinq services: les services cliniques, l'éducation sanitaire dentaire, la formation du personnel dentaire, l'administration et les autres services (notamment la recherche et la consultation). Les hygiénistes dentaires en cabinet privé consacrent plus de 75 pour cent de leur temps à des activités cliniques dont, en premier lieu, des traitements parodontaux — et un peu moins de 20 pour cent à l'éducation sanitaire. Les hygiénistes dentaires qui oeuvrent en santé communautaire consacrent plus de 50 pour cent de leur temps à l'éducation sanitaire, près de 25 pour cent aux services cliniques et 20 pour cent à l'administration et à d'autres services. Les enseignants en milieux post-secondaires consacrent 50 pour cent de leur temps à la formation du personnel dentaire, près de 15 pour cent à l'administration et un peu moins de 10 pour cent aux services cliniques et à l'éducation sanitaire.

Même si des influences variées peuvent rendre hasardeuses certaines projections concernant les milieux d'exercice, quelques tendances semblent sûres.

Les cabinets dentaires privés demeureront le lieu de travail principal des hygiénistes dentaires au Canada. Il reste néanmoins à déterminer les répercussions de l'émergence de milieux de pratique dentaire non traditionnels, de même que les effets de nouvelles méthodes de financement. Les facteurs qui influencent le plus l'exercice de l'hygiène dentaire en cabinets privés, sont la perception qu'a le dentiste surveillant de l'hygiéniste dentaire, les prescriptions prévues dans la réglementation et l'excédent perçu de personnel en soins dentaires. Plus on insistera sur le bien-être et l'hygiène personnelle, plus le rôle de l'hygiéniste dentaire en matière de promotion de la santé et de prévention des maladies dentaires prendra de l'importance. Bien que la médecine dentaire ait été quelque peu réticente à reconnaître l'hygiène dentaire comme une nouvelle profession de la santé, la position officielle des associations dentaires à cet

égard est en train d'être re-examinée. De nouvelles perspectives peuvent favoriser l'ébauche d'une approche axée davantage sur une collaboration réciproque au niveau de laquelle les hygiénistes dentaires seraient considérées comme compétentes dans leur domaine et aptes à prendre les décisions appropriées concernant les soins cliniques en hygiène dentaire.

La réglementation actuelle limite la disponibilité et l'étendue des services d'hygiène dentaire. Un excédent potentiel de personnel dentaire peut avoir de profondes répercussions sur l'offre et la nature des postes en hygiène dentaire. Si, devant un excédent perçu de praticiens dentaires, ceux-ci cherchent à accroître la demande de soins dentaires en couvrant les besoins de populations encore insuffisamment desservies, il est probable qu'il en résulterait une augmentation de débouchés pour les hygiénistes dentaires. Ce mouvement serait imputable à trois facteurs: 1) les dentistes pourraient employer plus d'hygiénistes dentaires à mesure que leur clientèle augmente; 2) des nouveaux débouchés dans les milieux d'exercice non traditionnels pourraient se développer étant donné que la médecine dentaire, par l'entremise de ses pouvoirs de réglementation et autres pouvoirs officiels et officieux, peut créer des nouveaux milieux d'exercice davantage accessibles à une plus vaste clientèle, et 3) une meilleure connaissance des avantages, en fait d'efficacité-coûts, des services préventifs offerts par les hygiénistes dentaires pourrait augmenter les besoins pour cette catégorie de personnel. Des avis récents suggèrent que le surplus de personnel dentaire ne devrait pas se traduire par une diminution de l'emploi chez les hygiénistes dentaires. Il est à souhaiter que les divers intervenants dans ce domaine adoptent l'approche constructive indiquée précédemment.

En santé publique, les hygiénistes dentaires exercent leur profession dans des centres de santé communautaire et des établissements. Dans le premier cas, ils dispensent un vaste éventail de services tels que l'éducation sanitaire et la promotion de la santé, la pratique clinique, la planification de programmes de santé, le counseling, l'administration, l'évaluation et la recherche. Leurs principaux clients sont les enfants d'âge préscolaire et scolaire, les adultes, les futurs parents, les personnes handicapées et les personnes âgées.

Au nombre des facteurs qui influenceront dans l'avenir les rôles des hygiénistes dentaires dans le secteur de la santé communautaire, mentionnons l'offre relative de main-d'oeuvre, la création de programmes appropriés d'études universitaires en hygiène dentaire, la modification des lois restrictives, le degré d'élaboration des

programmes de santé communautaire, la formulation de normes relatives à ces programmes et l'évolution de l'état de santé bucco-dentaire des canadiens.

Pour ce qui est de l'exercice en établissement, les hygiénistes dentaires travaillent dans les hôpitaux de soins aigus ou de soins prolongés ainsi que les pénitenciers. Les établissements de soins de longue durée comprennent, entre autres, les centres pour malades chroniques, les foyers de convalescence, et les centres de réadaptation pour une clientèle définie telle que les personnes atteintes de troubles émotifs, les personnes handicapées et les personnes âgées. Actuellement, toutes ces catégories de centres emploient des hygiénistes dentaires. Ces derniers pourraient y accomplir un travail plus vaste si les règlements de surveillance étaient moins restrictifs.

En 1983, au Canada, environ 5 pour cent des hygiénistes dentaires s'occupaient de la formation du personnel dentaire. Selon toute probabilité, ce nombre demeurera relativement constant. Ces hygiénistes dentaires oeuvrent à titre d'enseignants, de coordonnateurs de programmes, d'administrateurs et de chercheurs. Sauf dans les collèges communautaires de l'Ontario, la plupart des enseignants en hygiène dentaire possèdent un baccalauréat ou un diplôme d'études supérieures.

Les services dentaires des Forces armées canadiennes emploient environ 70 hygiénistes dentaires. La plupart ont été formés à l'École des services dentaires des Forces armées canadiennes à Borden, en Ontario. Au cours des dernières années cependant, des postes ont également été ouverts aux hygiénistes dentaires issus de programmes civils. Des instituts de recherche, l'industrie dentaire ainsi que des centres dentaires de syndicats et d'entreprises offrent actuellement quelques postes aux hygiénistes dentaires.

Facteurs importants

Le vieillissement de la population et l'évolution des tendances de la maladie dentaire sont au nombre des facteurs qui affecteront le développement de l'hygiène dentaire au Canada. L'incidence de la carie dentaire fléchissant dans les pays industrialisés, un plus grand nombre d'adultes conservent leurs dents naturelles lorsque leur santé parodontale est satisfaisante. Ces phénomènes entraîneront un accroissement du besoin de services d'hygiène dentaire. L'augmentation du niveau de vie et de la scolarité entraîneront également une plus forte demande de services de médecine dentaire préventive.

Selon Santé et Bien-être social Canada, les services dentaires représentent environ 6 pour cent des dépenses totales (publiques et privées) en matière de soins de santé. Le

secteur privé engage la majeure partie des dépenses en soins dentaires. Au cours des dernières années, les régimes privés d'assurance dentaire et les régimes de soins dentaires subventionnés par l'État ont pris une importance grandissante. Ces deux régimes de financement peuvent faire croître la demande de services d'hygiène dentaire si les administrateurs cherchant à freiner l'escalade des coûts, offrent des services de qualité comparable à ceux dispensés par les dentistes mais à coût moindre et mettent l'accent sur les soins préventifs. Les règlements restrictifs qui limitent l'accès aux services préventifs dispensés par les hygiénistes dentaires représentent un facteur d'accroissement des coûts des soins de santé dentaire.

Les relations avec la médecine dentaire, primordiales pour l'hygiène dentaire, ont trait pour la plupart à l'emploi, à la réglementation et aux associations professionnelles. En dépit de certaines tensions, le rôle des hygiénistes dentaires demeurera probablement étroitement lié à l'art dentaire. Une collaboration étroite et permanente entre ces deux groupes servira davantage leurs intérêts et ceux du public. Il est proposé d'apporter des changements aux rapports traditionnels entre ces deux groupes: une plus grande autonomie pour l'hygiène dentaire au niveau de la réglementation; des horaires de travail et des fonctions plus souples; des exigences moins strictes en matière de surveillance et une plus grande reconnaissance de l'apport actuel et éventuel de l'hygiéniste dentaire à l'amélioration de la santé dentaire des Canadiens.

L'hygiène dentaire a été influencée par le fait qu'il s'agit d'une profession presque exclusivement féminine, qui relève de la médecine dentaire, profession essentiellement masculine. Il existe de nombreux exemples de stéréotypes sexuels concernant les origines et l'histoire des diverses professions dans le domaine de la santé.

Le stéréotype féminin, perçu générale-

ment comme un obstacle à la réussite professionnelle, a nui au développement de l'hygiène dentaire. Toutefois, de nouvelles façons d'envisager les rapports entre hommes et femmes ont donné un nouvel essor à plusieurs nouvelles professions de la santé comme l'ergothérapie, la physiothérapie et l'hygiène dentaire. Au cours de la dernière décennie, un long débat s'est engagé sur le statut de l'hygiène dentaire en tant que profession. Elle a été qualifiée, entre autres, de profession de niveau intermédiaire à l'instar de plusieurs autres professions de la santé. L'acquisition du statut professionnel est un processus qui permet à certaines caractéristiques d'un groupe d'évoluer dans le sens d'une profession. Au nombre de ces caractéristiques, mentionnons l'élaboration de normes d'enseignement et d'exercice, la participation à la recherche et l'aspiration à un niveau plus élevé d'auto-réglementation. L'existence de ces caractéristiques et la définition de l'hygiène dentaire en tant que processus de soins amènent les hygiénistes dentaires sur la voie de la reconnaissance professionnelle.

L'hygiène dentaire s'est modifiée profondément depuis ses débuts en 1907 et particulièrement depuis la fin de la Seconde Guerre mondiale. Elle occupe une place importante dans la prestation de soins de santé dentaire. Si, au Canada, les soins de santé dentaire sont considérés comme essentiels, l'hygiène dentaire a alors un rôle plus vaste à remplir.

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On peut obtenir d'autres exemplaires de ce rapport, incluant les recommandations, dans les deux langues officielles en s'adressant à Mme S.B. Amer, conseillère, Normes de santé dentaire, ministère de la Santé nationale et du Bien-être social, Ottawa, Ontario K1A 1B4. Le rapport au complet, tome I, sera disponible à l'été ou à l'automne 1986; le tome II sera disponible en 1988.

AVIS À NOS LECTEURS

Ce numéro du Journal de l'Association dentaire canadienne est distribué à tous les membres de la profession dentaire du Canada. Vous avez sûrement apprécié l'article que vous venez de lire dans cette édition. Au cours de l'année qui vient, de nombreux autres articles de ce genre, articles d'intérêt pour tous les dentistes canadiens, seront publiés. Pour recevoir le Journal régulièrement, et l'information qu'il contient, devenez membre de l'Association dentaire canadienne.

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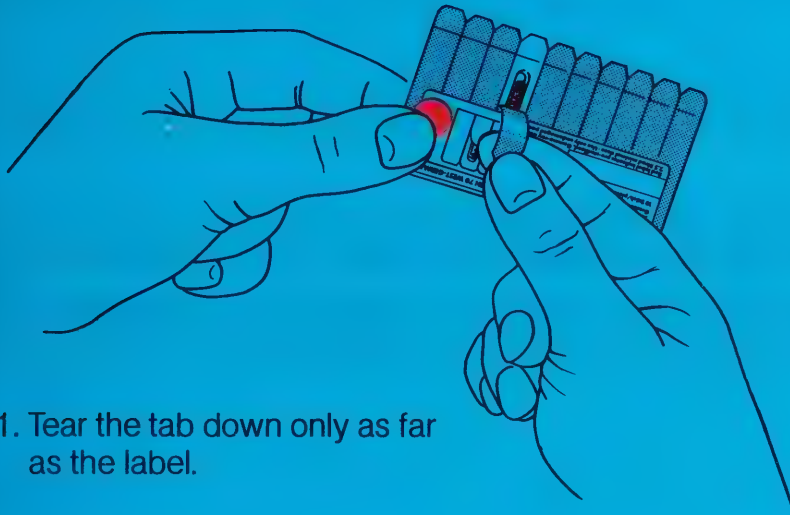


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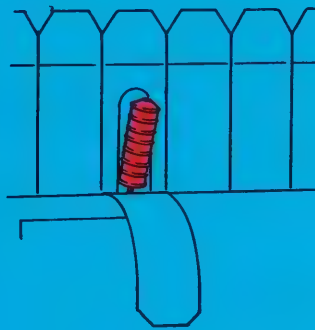
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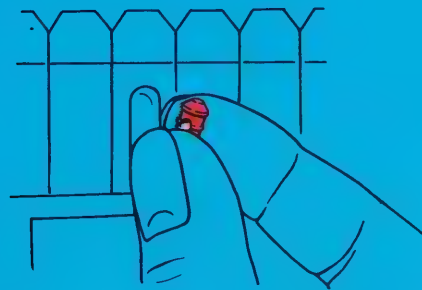


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IT ONLY TAKES A FEW SECONDS TO MAKE YOU THINK SERIOUSLY ABOUT DISABILITY INSURANCE

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When I offered my story to CDSPI, many people wondered why I would want to talk about it. The answer is quite simple. My recovery from a devastating accident was helped immensely by the knowledge that I was carrying adequate insurance coverage. Few dentists ever think of this sort of disaster as it would affect them personally, so I would like to relate some of the thoughts and feelings that I experienced.

A freezing rain storm, an icy curve, and the car sliding out of control were the last things I remembered — I never saw the gravel truck with which I collided head-on. Regaining consciousness in an Intensive Care Unit, is an awfully abrupt method to force a dentist to mentally examine his financial status and insurance coverage, but that's how it happened to me.

A serious car accident is something we all hear about daily via the media, but we assume that it is never going to happen to us. This is not to say that I thought I was invulnerable, rather I just didn't think about it seriously. However, in the space of one or two seconds, my very comfortable life was turned upside down.

When I regained consciousness, my first thoughts were — would I survive? What were the extent of my injuries? Would I be permanently maimed? These concerns were quickly put at ease by medical personnel. Yes, my injuries were tremendous, but I would survive. Both my legs were fractured beyond the degree ever seen at the University Hospital in a patient who survived, and

the possibility of having to amputate my right leg was discussed. My left arm and elbow were also so badly fractured that my ability to regain the use of them was in question. I was told that the recovery time would be very, very long, and that the pain could be controlled by medication.

Following quickly on the heels of my concerns about physical survival, came some much longer lasting concerns. My profession — would I be able to return to it? My family — how would they accept what had happened to me? What would happen to them while I had no income for an indeterminate period of time? Due to the extent of my injuries, the doctors did not want to, or could not, discuss the possibility of my returning to the practice of dentistry. It became obvious that I had to take stock of my financial resources. Disability Insurance, until that moment, had always been simply a word, but I was suddenly faced with the situation that for an indefinite period of time, I would be unable to earn an income in my profession. I had always paid my insurance premiums without a great deal of thought, but without it my family unit and my life may have been shattered.

I cannot conceive of how horrible it must be for a professional to regain consciousness in circumstances such as this, and realize that they have inadequate or no disability insurance. Fortunately, I did not find myself in that situation. The motivator early in my career to adequately insure myself was *not* that I ever envisioned an accident. There was a history of cardiac disease in my family, and I felt it would be prudent to

insure myself at a young age against the day when I might possibly become uninsurable. I will be forever grateful that I made that decision!

The disability protection that I purchased, keeping in mind the fact that I might not qualify for insurance at a later date, literally saved my sanity in those early days in the hospital, and has continued to do so over the past two years.

A person goes through several stages while in the hospital. The first stage is *disbelief* that it has happened to *you*. The next stage is acceptance of what has happened. Then comes a period of readjustment to the new environment, and this is a major phase. It includes adjustment to a daily hospital routine, dietary changes, medical routines, social changes involved in being in a single room all day, and other social interaction adjustments of being hospitalized. The next stage is that of ongoing treatment, involving quite possibly surgery, physiotherapy and, in my case, occupational therapy. The order of your day is forced upon you, indicated by the needs of the medical staff treating you. This is an awful shock to anyone, but especially a health professional who is used to being in total control of his or her day. The next stage is rehabilitation. This may occur in the hospital and/or at home. This stage also requires many difficult adaptations, often including new physical limitations.

Dentists are generally self-confident individuals, many of whom entered the profession to be their own boss. The previously mentioned sequence of events is in

direct conflict with the self-directed, self-reliant personality type. If, however, added to all of these traumatic events and adjustments, the dentist has to face severe financial pressures caused by a lack of or an insufficient amount of disability insurance, it is my strong conviction that recovery would be extensively delayed, and the dentist's self-confidence would be severely shaken, perhaps irreversibly.

It seems to me that there are three very important types of insurance to be considered here. The first is clearly Long Term Disability, to replace the personal income lost while the dentist is unable to practice. As I look around me every day, I am thankful that I have not had to uproot my family because of not being able to afford the mortgage payments, or change my children's lifestyles unduly, because I could no longer afford such things as weekly trips to McDonalds with their friends.

The second is Office Overhead, to cover the ongoing expenses of the dental practice until the dentist can return to it. We, as dentists, spend a lot of time concerned about the problems we all experience — staffing, patient availability, no-shows, difficult clinical cases, and the list goes on and on. However, very quickly a new set of problems occupied my thoughts, including how to keep my practice alive during my recovery. Again, I was thankful that I had purchased adequate Office Overhead Insurance. It is hard to envision having to lay off staff members who are very valuable simply because you do not have enough money to pay their salaries during your recovery.

The third is Extended Health Care. In my case, and in the case of severe illness, the cost of prescriptions, rental of aids such as wheelchairs and walkers, and other items can become quite high. In addition, the aid to recovery provided by being able to have a semi-private or private hospital room is very significant. In many hospitals, the difference between semi-private OHIP coverage and private OHIP coverage can exceed \$1,500 per month. A few dollars of Extended Health Care premiums can provide tremendous psychological benefits in the event of a disability, and will allow you to use your disability benefits for your normal household and family expenses.

Most of us, when it comes to "expensive" and intangible items such as disability insurance, tend to procrastinate in doing something about it for what I think are two reasons:

1. The intangible nature of the item vs the "immediate" cost.
2. In a strange way, if we deal with the situation in an appropriate manner, we may subconsciously feel that we are acknowledging our own vulnerability to catastrophic injuries or illnesses. By not actively

exploring our needs for disability income protection, we are perhaps reinforcing our false notion that "it could never happen to me".

I would suspect that many individuals not only procrastinate, but purposely underinsure themselves for one of two reasons. The first may be the desire to delay the purchase of adequate protection at a young age with the notion that "I'll buy more when my cash flow is in a more positive position". In my estimation, this is a very dangerous game of chance, because by the time that individual is in a cash flow position where the premiums are not a psychological burden, they may be uninsurable due to health problems, or in a position where their policy will be "rated" because of health problems that may not have been present at a younger age. A real-life example of this *would* have been my case, had I not had sufficient protection before the accident. Due to the extent of my orthopedic injuries, it is likely that I would have been refused additional insurance, or that any future disability policy would exclude benefits for any disability due to arthritis in my injured joints or any other illness that could be reasonably traced back to having its cause in my original injury.

I think the other reason that many people underinsure themselves is the thought that they could supplement their disability benefits with personal savings should a disability occur. Realistically, though, in the event of a serious illness or accident, the drain on their savings would be very rapid. I would suspect that most dentists live pretty much up to their disposable income. In addition, a large portion of many dentists' savings are tied up in long term tax shelters. If these tax shelters have to be liquidated to supplement inadequate disability benefits, the result could be severe income loss, taxation penalties, and poorer long term financial security.

All of these things considered, the chance taken by not having adequate coverage is, in my opinion, the equivalent of playing Russian Roulette. The premiums involved in providing adequate Long Term Disability and Office Overhead Insurance are well justified, simply by the *peace of mind* that such coverage brings. It is not enough to look at material as it comes across your desk, and think "I must get around to giving CDSPI a call to update my coverage". It could be too late before you get around to it. The responsible dentist *MUST* take into serious consideration the effects, not only on himself but on his family, of not having sufficient disability coverage. As I discovered, accidents can happen to anyone at anytime. I was fortunate enough to have insured myself at an early age and maintained that coverage at an adequate level. I hope you can say the same.

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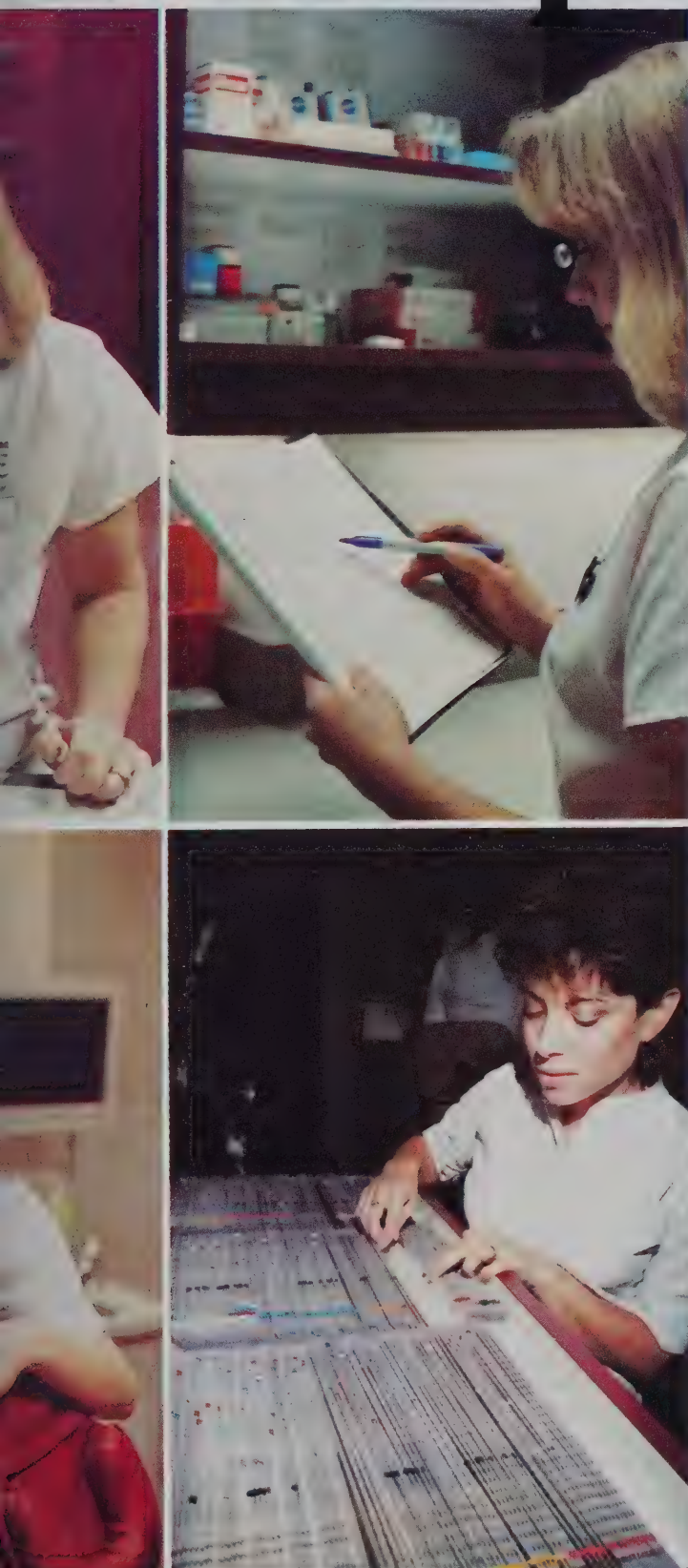
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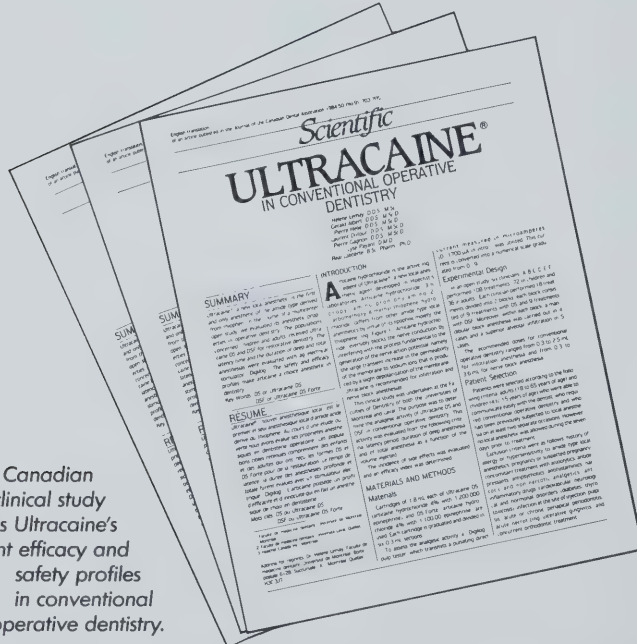
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A STUDY OF THE GINGIVAL RESPONSE TO POLISHED AND UNPOLISHED AMALGAM RESTORATIONS

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ABSTRACT

The presence of bacterial plaque is associated with gingival inflammation in adjacent tissues. The bacterial plaque has a direct relationship to the morphological characteristics and degree of roughness of restoration and oral hygiene. The aim of the present investigation was to determine if carving and burnishing, or carving, burnishing and then subsequently polishing an amalgam restoration had an effect upon plaque accumulation and gingival inflammatory reaction. A total of 24 Class 2 and Class 5 amalgam restorations with subgingival margins were placed in 10 patients. The comparisons were made between matched pairs of polished and unpolished restorations with contralateral non-restored teeth serving as controls. The gingival reaction was evaluated by means of the Gingival Index, the GCF flow, and measurement of the free gingival margin height. The plaque accumulation was measured by recording the Plaque Index. Clinical evaluations of the gingival tissues were made preoperatively, and at one, three and four months post-restoration. No attempt was made to reinforce oral hygiene procedure while this study was in progress. There were no significant differences between polished and unpolished restorations or between control and restored teeth with respect to Plaque Index, Gingival Index and GCF flow. The placement of an

amalgam restoration caused a significant loss of free gingival margin height when compared to non-restored teeth.

SOMMAIRE

En présence de plaque bactérienne, les tissus gingivaux adjacents ont tendance à s'enflammer. La plaque bactérienne est directement liée aux caractéristiques morphologiques, à la rugosité de la restauration et à l'hygiène buccale. Cette étude a pour but de déterminer si le modelage et le brunissage, ou si le modelage, le brunissage et, par la suite, le polissage d'une restauration à l'amalgame entraînent une accumulation de plaque et une inflammation des gencives. À des fins de comparaison, on a effectué, sur dix sujets, 24 restaurations à l'amalgame avec rebords sous-gingivaux (catégories 2 et 5). On a comparé des restaurations qui ont été polies à d'autres qui ne l'ont pas été, des dents contralatérales non restaurées servant de témoins. On a calculé les réactions des gencives à l'aide de l'Indice gingival, de l'indice d'écoulement GCF et des mesures des rebords gingivaux libres. On a mesuré l'accumulation de plaque à l'aide de l'Indice de la plaque. Les tissus gingivaux ont été examinés avant les restaurations, puis un, trois et quatre mois après les restaurations. En outre, rien n'a été fait pour améliorer l'hygiène dentaire des sujets durant l'étude. On a relevé aucune différence importante

entre les restaurations polies et les restaurations non polies ni entre les dents restaurées et les dents témoins relativement à l'Indice de la plaque, à l'Indice gingival et à l'indice d'écoulement GCF. Par contre, une restauration à l'amalgame entraîne une diminution sensible du rebord gingival en comparaison avec celui des dents non restaurées.

Of all factors previously implicated in the etiology of periodontal disease, evidence indicates that unattended surface plaque in the region of the gingival sulcus is the most important single cause. Bacterial plaque and/or its products are responsible for local tissue inflammation. There are certain characteristics in any restoration that may influence this condition. Among the more important are morphological characteristics including axial contour, proximal contact and marginal adaptation. Plaque accumulation is intensified by poor margins on amalgam as well as other restorations. It is commonly stated¹⁻⁷ that the development of gingivitis is a consequence of overhanging margins and rough surfaces, since such surfaces facilitate the retention of plaque.

The purpose of this investigation was to evaluate the periodontal reaction to polished and unpolished amalgam restorations as measured by the gingival crevicular fluid flow, the Gingival Index and Plaque Index.

Methods and Materials

Ten human subjects were selected who presented with Class 2 or Class 5 carious lesions. They were free of known systemic disease and had clinically healthy supporting tissues. Unrestored teeth with Class 2 carious lesions adjacent to sound unrestored surfaces or Class 5 lesions were used, provided they could be paired with a carious tooth of near equal type; paired restorations were of the same class. The toss of a coin determined whether the restorations were to be carved and burnished, or carved, burnished and subsequently polished.

At the initial appointment, all the patients were given a prophylaxis and home care instructions. In addition, preoperative measurements were made in the following order: gingival crevicular fluid flow, Plaque Index, Gingival Index and gingival height.

Gingival crevicular fluid flow was measured with a GCF meter (Periotron, Harco Electronic, Ltd., Winnipeg). The Silness and Loe⁸ criteria were used to measure the Plaque Index; Loe-Silness⁹ criteria for the Gingival Index.

The gingival height was measured with a pair of dividers and Boley gauge. In the case of Class 2 preparations, the buccal cervical point angle was used as a reference point, and the distance to the gingiva was measured in a straight vertical direction. In Class 5 restorations, the occlusal margin of the preparation was initially determined and the distance to the gingival margin measured in a straight vertical direction. In Class 5, the buccal groove was used to assure the mesio-distal reproducibility of the measurement as a reference point. The margin distance was read off and recorded with the appropriate sign-positive for supragingival and negative for subgingival.

Thirty-six teeth represented the final experimental and control example, of which 24 were Class 2 and two were Class 5 cavi-

ties. The same operator prepared all cavities according to the standard technique and design employed at The University of Michigan, School of Dentistry.¹⁰ The remaining 10 unprepared non-carious teeth served as controls. The gingival margin placement was dictated by the position of the carious lesion. Rubber dam was applied for the placement of all restorations after completion of the cavity preparation so that the relationship between the margin and the gingival tissue would not be distorted.

A 600 mg capsule of alloy (Tytin, S.S. White Dental Products, Philadelphia, PA.) was triturated for eight seconds. Condensation was accomplished with a condenser face as large as the size of the cavity permitted. Immediately following the completion of condensation, the amalgam was burnished with a large ball burnisher as a part of the condensation procedure and then carved with a large spoon, a Ward's C carver, and a cleoid-discoid carver. Finally, the occlusal surfaces and developmental grooves were smoothed with an anatomic burnisher.

Patients returned after 24 hours for finishing and polishing of those restorations which were predetermined by the toss of the coin. The polishing sequence was according to the standard technique and sequence employed at the University of Michigan School of Dentistry.¹⁰

After placing the restorations, the patients were asked to return in one month, three months and four months. They were asked not to brush or to eat two hours before the appointment. The same sequence as described above was followed for each individual reading at each appointment.

Results

Four months after placement of the restorations, all members of the baseline population were present. The results were

subjected to pairwise rank statistics for Gingival Index and Plaque Index. Paired t-tests were applied for gingival crevicular fluid measurements and free gingival margin height values. Thirteen pairs of polished and unpolished restorations were present in 10 patients. Each pair of polished and unpolished restorations was considered as a statistical unit. All data were analyzed for significance at the 5 per cent level.

GINGIVAL INFLAMMATION — Four months after placement of the restorations, there were no significant differences in Gingival Index between control and polished ($P = 0.25$), the control and unpolished ($P = 0.121$), nor between polished and unpolished ($P = 0.99$) (Fig. 1, Table I).

PLAQUE INDEX — No significant differences in Plaque Index were observed between control and polished ($P = 0.37$), control and unpolished ($P = 0.06$) and polished and unpolished ($P = 0.62$) (Fig. 2, Table I).

GINGIVAL CREVICULAR FLUID — No significant differences in G.C.F. between control and polished ($P = 0.81$), control and unpolished ($P = 0.69$) and polished and unpolished restorations ($P = 0.92$) (Fig. 3, Table I).

CHANGE IN GINGIVAL HEIGHT — There was a significant difference in the gingival margin height of tissues adjacent to polished ($P = 0.04$) and unpolished ($P = 0.047$) restorations when compared to the gingival height recorded adjacent to the control teeth. However, there was no significant difference in changes between free gingival margin height recorded for tissue adjacent to polished and unpolished restorations ($P = 0.77$) (Table I).

Discussion

Previous studies have shown that rough surfaces, overhanging restorations and defi-

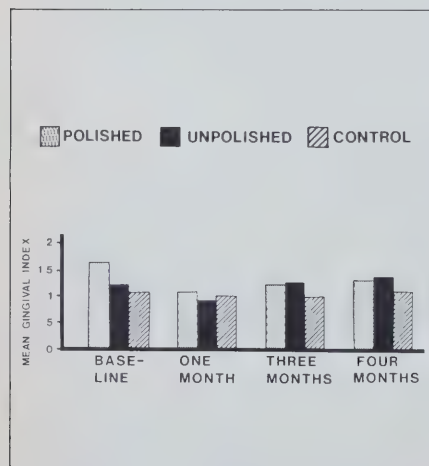


Fig. 1. Mean gingival index at baseline, one, three and four months.

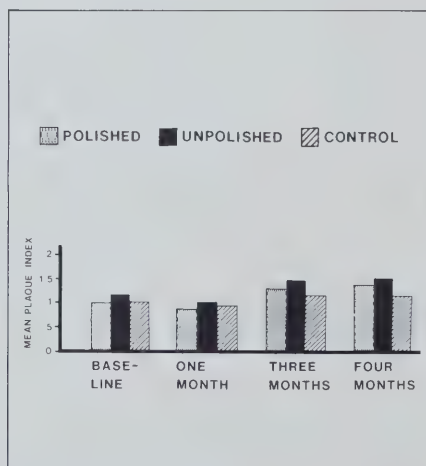


Fig. 2. Mean plaque index at baseline, one, three and four months.

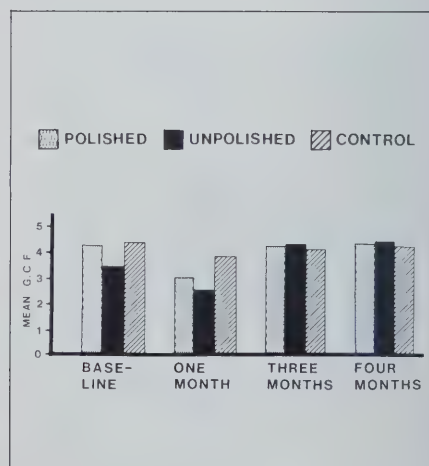


Fig. 3. Mean gingival fluid at baseline, one, three and four months.

cient margins contribute to plaque retention and subsequent gingival reaction.¹⁻⁷ The present study has shown no significant differences in plaque and gingival indices associated with either the polished or unpolished amalgam restorations when compared to non-restored control teeth, nor between the polished and unpolished amalgam restorations themselves over a four-month period. These findings are in general agreement with other researchers.¹¹⁻¹⁶ However, Stevens¹⁷ did observe a significant difference in both gingival and plaque indices between experimental and control teeth. This can be explained by the fact that zero baseline scores were established for the Gingival Index, Plaque Index and gingival crevicular fluid. Suomi¹² also concluded that restorations contacting the gingiva are of little importance in raising or lowering a patient's gingivitis score. In the present study, however, at the one-month recall period, there was a slight improvement in Gingival Index and Plaque Index in both experimental and control teeth. The slight decrease in Gingival Index and in Plaque Index was believed to be due to the removal of the carious lesion, and to resolution of the tissue's response to the initial mechanical prophylaxis, as well as the patients' improved oral hygiene as a result of the home care instruction given. A poorer level of oral hygiene seen in some of the subjects after four months was evidenced by a return of readings to baseline levels in most instances. This was probably due to a lack of patient motivation over a period of time from following the original oral hygiene instructions. Continued oral hygiene instruction was not given at one and three months in order to evaluate these procedures in a habitual environment.

A valuable outcome of the present study was the finding that a well-condensed, carved and burnished or a well-polished

restoration, with no distinguishable overhang or marginal discrepancy, did not cause increased gingival irritation or plaque retention when compared to control teeth. This finding is in general agreement with Karlsen,¹⁸ Waerhaug,¹⁹ Trivedi and Talem²⁰ who found that there were no gingival reactions adjacent to Progold that had been well-polished and with well-burnished margins. The very slight difference in mean Gingival Index and Plaque Index observed adjacent to polished restorations compared to unpolished restorations is probably explained by the polishing procedure itself that was carried out in the attempt to develop greater smoothness. An even greater improvement might be expected by employing improved techniques for polishing interproximal surfaces and cervical margins. Additional information concerning the effects of amalgam restorations on gingival health might be obtained by human tissue biopsies. However, biopsies are difficult to obtain, particularly when healthy gingival tissues are needed to start with as a baseline.

A significant difference in gingival crevicular fluid from baseline to the one-month period is found for both polished and unpolished amalgam restorations as well as between unpolished and control teeth. However, there was no significant difference in gingival crevicular fluid between polished and unpolished restorations. At four months, there was no significant difference between any of the restored and control teeth with respect to gingival crevicular fluid flow. This might be explained by the fact that initially the restorations were less irritating to tissue than carious lesions. However, with time, the poorer hygiene eliminated the advantage of the restoration over the original carious lesion regarding the irritation of the adjacent gingival tissue. This is in agreement with Gwinnett et al²¹

who showed that the GCF flow decreased following the first prophylaxis, and slowly returned to pre-treatment values. Their results indicate that multiple prophylaxes might be a practical procedure to improve gingival health. However, Stevens¹⁷ observed a significant difference between enamel and polished restorations with respect to gingival crevicular fluid, although he did not show a significant difference between carved restorations and enamel. He concluded that the results of gingival fluid measurement were quite disappointing and suggested it might be necessary for a longer period of observation before drawing any conclusions. Egelberg²² found that variations existed in the amounts of fluid present in the clinically healthy gingiva adjacent to different surfaces of a tooth. The clinical observations made during the present study appear to be in agreement with this finding.

Injury caused by transient instrumentation, gingival retraction using a rubber dam, and placement of the restorative material aided by matrix application, condensing, carving and finishing procedures, may have resulted in gingival recession. There was a significant change in gingival height adjacent to polished and unpolished restorations compared with controls at the one-month recall period. This decrease recovered slightly by the four-month recall period. This recovery may have been caused by gingival inflammation or due to creeping reattachment.

The Silness and Loe Index⁹ is predicated on measuring plaque thickness, and it would appear to be a reliable method of assessing the accumulation of plaque mass. The accuracy and reproducibility of scoring is dependent on the training of the investigator who does the scoring. Therefore, the data collected by a single calibrated investigator gives an opportunity to keep the

TABLE I

Summary of mean gingival index, plaque index and gingival crevicular fluid at baseline, one, three and four months

	POLISHED				UNPOLISHED				CONTROL			
	BASE-LINE	ONE MONTH	THREE MONTHS	FOUR MONTHS	BASE-LINE	ONE MONTH	THREE MONTHS	FOUR MONTHS	BASE-LINE	ONE MONTH	THREE MONTHS	FOUR MONTHS
GINGIVAL INDEX	1.46 ±.51**	1.07 ±.49	1.23 ±.59	1.30 ±.63	1.23 ±.59	.92 ±.75	1.30 ±.63	1.38 ±.65	1.07 ±.75	1.00 ±.70	1.00 ±.70	1.07 ±.75
PLAQUE INDEX	1.00 ±.40	.84 ±.55	1.30 ±.63	1.38 ±.65	1.15 ±.37	1.00 ±.70	1.46 ±.66	1.53 ±.51	1.00 ±.70	.92 ±.27	1.15 ±.55	1.15 ±.55
G.C.F.	4.23 ±2.38	2.92 ±2.17	4.15 ±2.79	4.23 ±2.97	3.38 ±1.70	2.46 ±1.50	4.23 ±2.52	4.30 ±2.21	4.30 ±2.68	3.84 ±2.26	4.00 ±2.58	4.07 ±2.21
SUMMARY OF MEAN G.I., P.I., AND G.C.F. SCORES AT BASELINE, ONE MONTH, THREE MONTHS, AND FOUR MONTHS												
*SIGNIFICANT AT 95 PERCENT CONFIDENCE LEVEL												
**STANDARD DEVIATION												

number of variables to a minimum, as stated by Cvar and Ryge²³ and several other investigators.²⁴⁻²⁵

In the present study, it is apparent that without patient cooperation in plaque control, long-range improvement in tissue response may not be achieved. Therefore, from a preventive standpoint, the dentist has the responsibility for frequent prophylaxes, giving oral hygiene instructions, and reinforcing his patients' attempts in applying the principles of plaque control in their home physiotherapy.

Conclusion

On the basis of the findings in this study of four-months' duration, the following conclusions are made:

1. The finishing procedures investigated were not significantly related to the gingival inflammatory reaction of the adjacent tissues, nor to plaque accumulation.
2. Throughout the evaluation period, the mean Gingival Index and the plaque accumulation on restorations did not differ significantly from the mean scores for matching controls.
3. The placement of an amalgam restoration caused a significant decrease in free gingival margin height when compared to non-restored teeth.

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Reprint requests to Dr. Hadavi.

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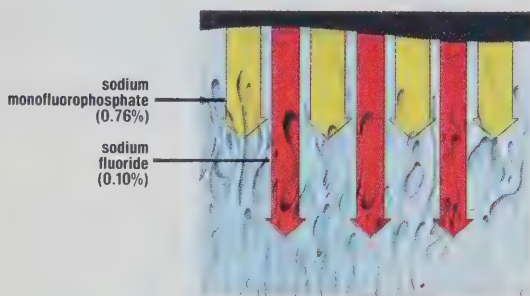
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A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

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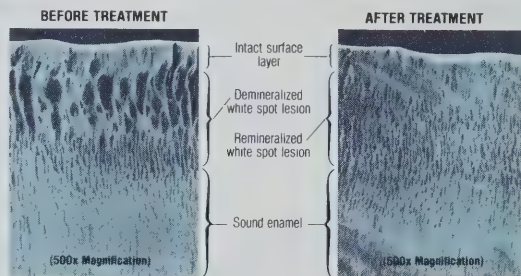
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It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



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THE ETIOLOGY AND TREATMENT OF INTRINSIC DISCOLOURATIONS

P.A. Hayes, DMD
C. Full, BS, DDS, MS
J. Pinkham, BS, DDS, MS
Iowa City, Iowa

ABSTRACT

An overview of the etiology and clinical appearance of intrinsic discolourations is discussed. The advantages, disadvantages and methods of various treatment options are presented. Technological advances in dental materials have accounted for a more conservative approach for the treatment of these psychologically traumatic conditions.

SOMMAIRE

Cet article passe en revue les causes de la dyschromie dentaire, ses manifestations cliniques et les diverses méthodes de traitement existantes, y compris leurs avantages et leurs inconvénients. Les progrès réalisés avec les matériaux dentaires permettent d'adopter une approche plus conservatrice pour traiter ces désordres qui peuvent être éprouvants sur le plan psychologique.

The North American society is placing an ever increasing demand on the dental profession to provide them with the opportunity to have "whiter teeth". The public is conditioned, in part, by toothpaste manufacturers who promote their products with advertisements such as "Get close with Close Up" or "have sex appeal with Ultrabrite". The dental practitioners are invariably pressured by the public to have the capability to diagnose and treat discoloured teeth.

Discolourations of the dentition are traditionally classified into two main categories

— extrinsic and intrinsic.¹ Extrinsic stains result from the deposition of a film, pigment or calculus on the teeth, while intrinsic stains refer to colour changes of the internal tissues of the teeth, which may be of local or systemic origin.²

Intrinsic discolourations are usually more esthetically displeasing, psychologically traumatic and difficult to treat than extrinsic discolourations, but recent advances in dental materials and techniques have substantially improved their treatment. The purpose of this paper is to discuss the various etiologies and treatment modalities of intrinsic discolourations.

Intrinsic Discolourations

There are several causes of intrinsic tooth discolourations which have either an endogenous or exogenous origin. These changes may occur during or after odontogenesis (Fig. 1).

During odontogenesis, teeth may become discoloured from changes in the quality or quantity of enamel or dentine, or from the incorporation of discolouring agents into the hard tissues. Post-eruption discolourations occur when discolouring agents enter the dental hard tissues. They may originate from the pulp cavity or tooth surface.³

Intrinsic Discolourations During Odontogenesis

1) Ochronosis

Ochronosis, also known as alkaptonuria or phenylketonuria, is a recessively inherited inborn error of metabolism,

characterized by incomplete oxidation of tyrosine and phenylalanine causing a build-up of homogentisic acid, and which may result in a dark brown discolouration of the permanent teeth.⁴

2) Porphyria

Porphyria is a rare disorder of porphyrin metabolism, resulting in an increase in the formation and excretion of porphyrins. It is usually congenital but may be acquired later in life. The disease is manifested by gastrointestinal, neurological and psychological symptoms. The hematoporphyrin pigment causes a characteristic reddish-brown discolouration of the teeth, called

TABLE I

Severity of discolouration in relation to type of drug administered

Drug	Colour
1) Chlortetracycline (Aureomycin)	Gray-brown
2) Demethylchlortetracycline (Ledermycin)	Yellow
3) Oxytetracycline (Terramycin)	Yellow (least amount)
4) Tetracycline (Achromycin)	Yellow
5) Doxycycline (Vibramycin)	No change

"erythrodontia",^{5,6} and the primary dentition is more commonly affected than the permanent dentition.⁶ The discolouration cannot be removed because it is dispersed throughout the enamel, dentine and cementum. This is evident when the teeth fluoresce red when viewed under ultraviolet light.

3) Hemolytic Anemias

Erythroblastosis fetalis (Icterus gravis neonatorum) is a blood disorder of the newborn, characterized by agglutination and hemolysis of the erythrocytes due to Rh incompatibility between the infant's and mother's blood. The circulating blood pigments may discolour the deciduous teeth and those permanent teeth calcifying around birth. They appear greenish-blue, bluish-black, tan or brown in colour.⁸ Treatment of this disorder is usually not necessary because the staining resolves as the child matures.

Thalassemia and sickle cell anemia are hereditary blood dyscrasias which may present with dental findings similar to erythroblastosis fetalis. One exception is that the permanent dentition is more extensively affected in thalassemia and sickle cell anemia.

4) Amelogenesis Imperfecta

Amelogenesis imperfecta affects the enamel of both the primary and permanent dentitions and is generally accepted as a hereditary defect.⁹ Autosomal dominant and autosomal recessive are the most common modes of inheritance. The three types of amelogenesis imperfecta are hypoplastic, hypomaturation and hypocalcific. All three types show variations in clinical appearance between each other and among themselves.

The thickness of the enamel is less than normal in the hypoplastic type so that the teeth do not contact each other mesio-distally. Clinically, the crowns are yellow, smooth, glossy and hard, although they may present with roughness and pitting.

In hypocalcific amelogenesis imperfecta, the enamel is of normal thickness but is soft, so that it is abraded away soon after eruption. The crowns appear from a dull opaque white to a dark brown, and usually are rough and pitted. Patients with amelogenesis imperfecta are excellent candidates for full coverage restorations, which provide adequate esthetics, protection of the pulp tissue, and improve the efficiency of hygiene procedures.

5) Dentinogenesis Imperfecta

Dentinogenesis imperfecta is inherited as an autosomal dominant trait. It is the most prevalent hereditary dystrophy affecting the structure of teeth. The primary dentition is usually more extensively affected than the

permanent dentition.⁹ Clinically, the crowns appear reddish-brown to gray opalescent. The enamel may fracture off soon after eruption, followed by rapid attrition of the exposed soft dentine.

Dentinogenesis imperfecta is more difficult to treat than amelogenesis imperfecta. Full coverage restorations, if possible, is usually the only treatment of choice.⁹

6) Endemic Fluorosis

Dental fluorosis is an enamel hypoplasia resulting from excessive ingestion of fluoride during the critical stages of dental development.⁹ It is usually found in communities where the fluoride content of the drinking water exceeds one part per million. The degree of fluorosis is directly proportional to the amount of fluoride absorbed. The enamel may appear with white flecks or spots in the mildest forms to mottled or pitted in the more severe forms,¹⁰ while the adjacent enamel appears normal. A brown stain of extrinsic origin is acquired a few years after the affected tooth has erupted into the oral cavity. For this reason, the brown stain seldom appears in the deciduous dentition. Enamel hypoplasia is rare, but when present, deep, irregular, brown pits appear. Fluorosis is most often treated by bleaching, a resin restoration, or a combination of the two.

7) Tetracycline Staining

The effect of tooth discoloration by tetracyclines was first reported in 1956 by Schwashman and Schuster.¹¹ Tetracycline affects the permanent teeth as well as the deciduous teeth because of its ability to cross the placental barrier. The teeth are vulnerable from the fourth month in utero to at least three years of age. During mineralization, tetracycline binds to the calcium to form a calcium-phosphate-tetracycline complex. This does not alter the basic structure and integrity of the mineralized tissue;¹² its

greatest concentration is located in the dentine.³

The severity of the discolouration is related to the dose, duration, time of administration and type of drug administered⁹ (Table I). In severe cases, enamel hypoplasia may result.

Tetracycline-stained teeth are diagnosed from the history, clinical appearance, and their bright yellow fluorescence under ultraviolet light. The type of treatment is dependent on the severity, distribution and colour type of the stain¹⁴ (Fig. 2). Light gray-brown stains may react satisfactorily to external bleaching whereas dark gray-brown stains and those which are contiguous to normal coloured zones react poorly. Acceptable esthetics in the young dentition is obtained with resin veneers, which can be replaced later with full veneer crowns. Prophylactic endodontics with internal bleaching produces good aesthetics but has major disadvantages which limits its use.

Intrinsic Discolouration after Odontogenesis

1) Trauma

Hemorrhage in the dental pulp may result in the diffusion of blood pigments into the dentinal tubules, causing an initial pink discolouration followed by a reddish-brown discolouration.¹⁵ In the event that the pulp does not undergo necrosis, the crown will reform to its original colour within a few weeks after injury. Prolonged discolouration usually indicates pulp necrosis and a localized enlarging "pink spot" on the enamel surface indicates internal resorption. Pulp necrosis and internal resorption are treated by root canal therapy. These teeth are excellent candidates for internal bleaching.

2) Tooth Tissue

Aging, secondary and tertiary (atypical)

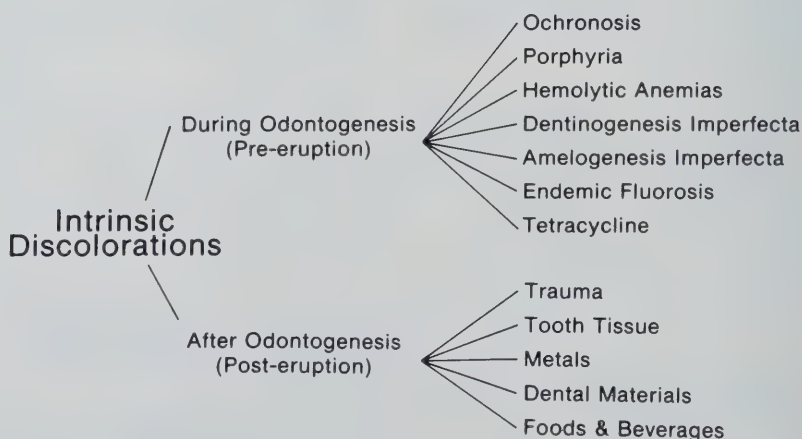


Fig. 1. Causes of intrinsic discolourations.

dentine formation, and pulp stones can cause the tooth to appear a yellowish-brown colour.¹⁶

3) Metals

By direct contact and oxidation or by precipitation from the blood stream or saliva, metals may deposit in the dentine, cementum or enamel. When the discolouration is from a metallic substance, as opposed to blood pigments, internal bleaching is less successful and there is an increased chance of relapse.¹⁷ The most common cause of metallic staining is corrosion particles from amalgam restorations.

4) Dental Materials

Materials containing therapeutic agents can discolour the dentition. Examples of these are polyantibiotic pastes, oil of cloves, creosote, etc.^{1,18}

5) Foods and Beverages

Intrinsic staining may result from smoking, tobacco chewing, or coffee and tea drinking. The tendency for staining is dependent on the type, quantity, frequency, length of exposure to the discolouring agents, surface texture of the enamel, and oral hygiene of the individual.

Treatment of Intrinsic discolourations

Intrinsic discolourations may be treated by one or a combination of the following techniques: full coverage restorations, labial veneering with composite resin or pre-formed acrylic, external bleaching, or internal bleaching (Fig. 2). The method of treatment is dictated by the etiology and severity of the stain, the finances of the patient, and the practitioner's personal preference.

External Bleaching

The success of external bleaching depends on the etiology of the stain. For example, it is possible to remove discolouring agents that are of oral origin but not those of pulpal origin. This is because it is impossible to gain access to the discolouring agents acquired during hard tissue development as they are dispersed throughout the mineralized tissues.

The mechanical cleansing action of hydrogen peroxide affects discolouring agents located within 5-7 microns from the enamel surface.¹⁹ This is explained by the high inorganic content and limited permeability of the enamel. The improvement of esthetics in cases of tetracycline and similar type stainings is attributed more to the alteration of the light refraction of the surface enamel than to the removal of the discolouring agents. The result is only temporary. Although 100 per cent success is very rarely achieved, the outcome may be acceptable enough to offset the requirements for a restoration.

Several techniques on the method of external bleaching are reported in the literature.¹⁹⁻²⁵ Major controversies of these techniques are the temperature of the heating element and the amount of time of heat application. Some authors^{20,21} do not follow a specific time or temperature but instead go by the results and symptoms of the patient. Alvin²² recommends that a temperature of 160°F be applied to each tooth for a minimum of three minutes on the labial surface and two minutes on the lingual surface. A recent study²³ suggests a temperature of 120°F be applied for five to ten minutes or until desirable results are obtained. Falkenstein¹⁹ reports that odontoblasts become ectopic when a temperature of 106°F reaches the pulp. Therefore, he recommends bleaching at 104°F for

seven to ten minutes. He also states that below 100°F, hydrogen peroxide loses its effectiveness.

Robertson and Melfi²⁶ heat-treated premolar teeth (which were later extracted for orthodontic reasons) twice at intervals of four days apart for five minutes at 115 to 124°F. Histological evaluation showed that the teeth treated with hydrogen peroxide had a mild reversible inflammatory response.

There is no apparent consensus established for the time and temperature of external bleaching. Although the patient's symptoms are a guideline, the pain threshold can be altered by the patient's psychological state. Furthermore, each individual has a different pain threshold and thus a different pulp response to thermal changes. It appears that a well controlled and judiciously applied low heat chemical treatment is the safest method for external bleaching.

Technique

- 1) Baseline photograph.
- 2) Apply a "tight fitting" rubber dam. May place petrolatum or cocoa butter to the portion of the dam towards the soft tissues.
- 3) Protection of the eyes, hands, and clothing of the dental team and patient.
- 4) Prophyl with flour of pumice and then etch with 37 per cent phosphoric acid for one minute, wash and dry.
- 5) Saturate the enamel surfaces with 30 per cent hydrogen peroxide and apply a low heat chemical treatment. One may mix the hydrogen peroxide with calcium carbonate to form a thick paste (exothermic reaction).²⁰ The different types of heating sources are a controlled rheostat (Union Broach Corp.), a bright photoflood bulb, and a solder gun.
- 6) Wash thoroughly with water, dry, and apply a sealing agent (varnish or fluoride).
- 7) Repeat, if necessary, at weekly intervals.

Internal Bleaching

The two techniques used to bleach discoloured pulpless teeth are thermocatalytic and walking bleach.¹⁷ They differ only in the method of releasing the nascent oxygen from the chemicals. The thermocatalytic technique involves placing 30 per cent hydrogen peroxide into the canal and heating it with a controlled rheostat, photoflood bulb, or hot instrument. Nutting and Poe²⁷ described the second technique as walking bleach because the bleaching paste is sealed into the tooth, allowing the bleaching process to occur between appointments. The paste is mixed into a thick consistency using sodium perborate and 30 per cent hydrogen peroxide. Although both techniques are equally effective, a better result

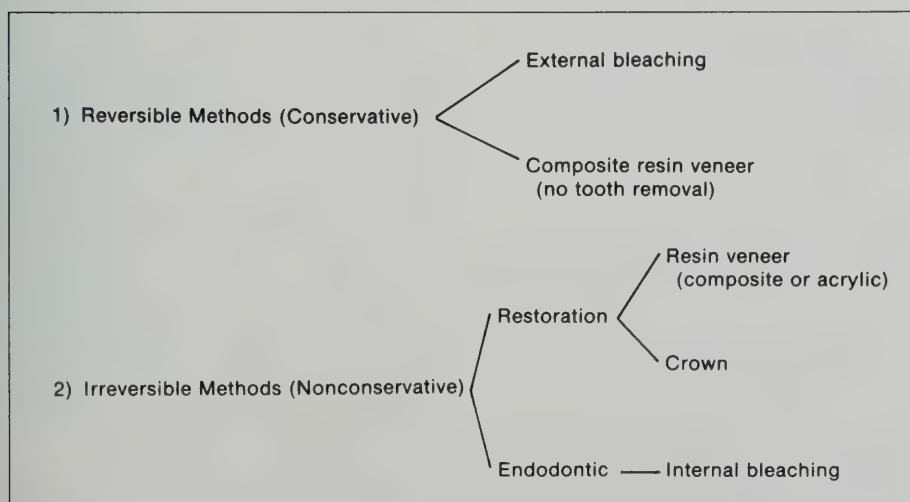


Fig. 2. Types of treatment for intrinsic discolourations.

is produced when they are used together.²⁸ The walking bleach technique is reported to cause less accidents and it takes less chair-side time.²⁸

The disadvantages of internal bleaching are as follows: it requires endodontically treated teeth, there is a possibility of complications arising from the prophylactic root canal treatment, the bleaching process causes the teeth to be brittle, and it is relatively expensive. However, this technique preserves the original crown morphology and the results are reported to be predictable and stable.¹²

Technique

Steps 1, 2 and 3 are the same as for external bleaching.

4) Remove all intracoronal materials below the gingival crest and ensure that the orifice is adequately sealed.

5) Dry the canal with a solvent (alcohol, acetone, xylene or chloroform) or etch with 37 per cent phosphoric acid for one minute, wash and dry.

6) i) Thermocatalytic technique: Place a cotton pellet saturated with 30 per cent hydrogen peroxide into the pulp chamber and apply heat for three minutes. Repeat if necessary.

ii) Walking bleach technique: Mix two to three drops of 30 per cent hydrogen peroxide with sodium perborate to form a thick paste, place it into the pulp chamber. Repeat, if necessary, in three to five days.

7) Seal the canal with IRM, avoid using Cavit.²⁹

8) Re-evaluate after one month. If stable, repeat step 5 and seal with resin.

Restorative

Full coverage restorations, such as porcelain jacket crowns or porcelain bonded to metal crowns, provide excellent esthetics but are an extremely aggressive and expensive procedure.³⁰ Due to these factors and other sequelae, this method is chosen as a last alternative.

The new advances in resin materials have dramatically increased the use of composite resin veneers for the treatment of intrinsic staining. This technique is currently being used as a permanent or temporary restoration in severely discoloured young dentitions. It is relatively inexpensive, easy to apply, and repairable. In cases of severe discolouration, there is a possibility for the stain to "shine through" while staying within a reasonable range of contour.³¹ An alternate method which would provide better aesthetics is a preformed laminate veneer; however, this technique has a higher rate loss, provides less control of contour, and is more expensive. The techniques for these procedures are discussed elsewhere.³¹

Summary

Intrinsic discolourations are either of extrinsic or intrinsic origin and may occur before or after odontogenesis. The current trends of treatment are a decreased usage of external bleaching and an increased usage of resin restorations.

Dental practitioners should have a thorough knowledge of the diagnosis and treatment of intrinsic discolourations so that they are capable of alleviating these psychologically traumatic conditions.

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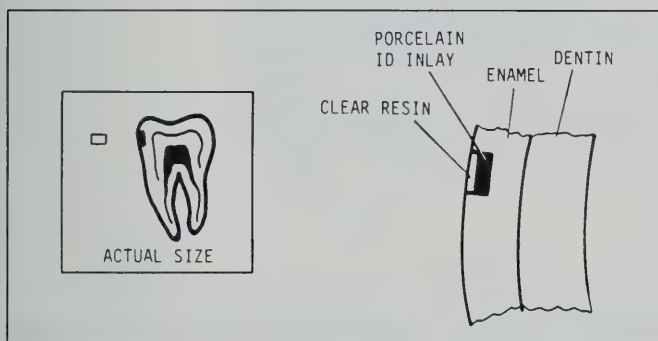
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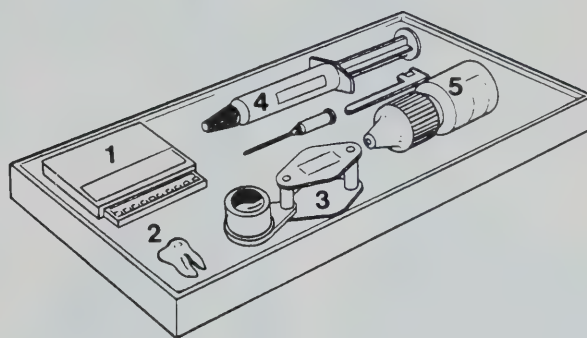


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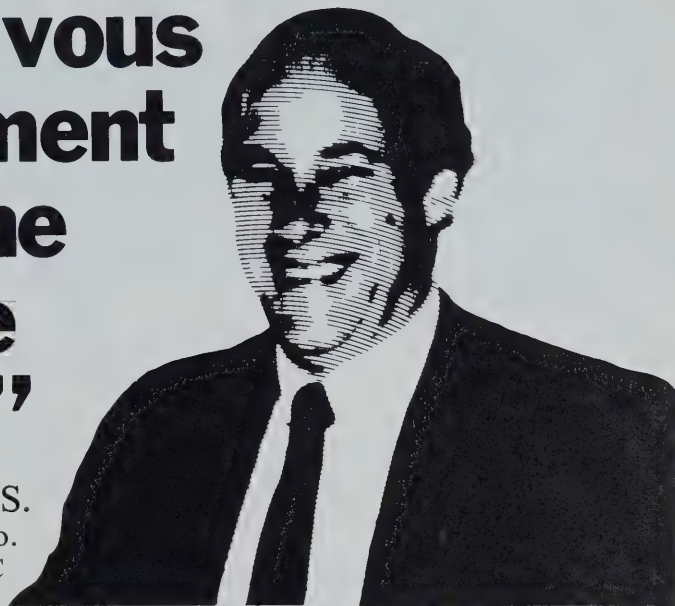
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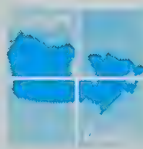
“ **P**our de nombreux dentistes, l'assurance invalidité n'est qu'un mot. Ils paient leurs primes parce qu'ils savent qu'ils doivent le faire, sans véritablement en apprécier toute l'importance.

J'étais aussi comme ça, jusqu'au jour où un accident de voiture a tout remis en question. Tout à coup, la sécurité financière de cette assurance invalidité prolongée a eu des effets psychologiques bénéfiques qui ont cent fois compensé les primes que j'avais payées pendant si longtemps.

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GARDNER'S SYNDROME

DIAGNOSIS IN A GERIATRIC PATIENT AND DENTAL IMPLICATIONS

Gerard L. Lapeer, DDS
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G.I. Stewart, MB, BCh
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ABSTRACT

Gardner's Syndrome is an autosomally dominant inherited disorder which, left untreated, results in carcinogenic changes in the colon. Apart from the characteristic polyposis of the colon, it is also characterized by various soft tissue tumours and osteomas of the maxilla and mandible. This paper will present a case of Gardner's Syndrome which was diagnosed in a geriatric patient, which is unusual since the disorder is usually diagnosed in a younger individual. The case also presented with unusual radiographic findings of osteomas and sclerosing osteitis which were confined to the tooth-bearing areas. Gardner's Syndrome is important for the dental practitioner's list of differential diagnoses of radiopacities since he may be the first health professional to diagnose the disorder.

SOMMAIRE

Le syndrome de Gardner est une affection à transmission autosomique dominante qui, non traitée, entraîne des modifications cancérogènes dans le colon. Outre la polypose colique qui y est associée, l'affection se caractérise par diverses tumeurs à tissus mous et l'ostéomatose des maxillaires. Cet article présente le cas d'un patient âgé

atteint du syndrome de Gardner, ce qui est rare vu que l'affection se manifeste ordinairement chez les jeunes. Grâce aux radiographies prises, on a découvert que le patient souffrait d'ostéomatose et d'ostéite sclérosante. Étant donné que le dentiste peut être le premier professionnel de la santé à pouvoir diagnostiquer le syndrome, il est important qu'il en reconnaisse les signes à l'analyse des opacités révélées par les radiographies.

Familial polyposis coli (FPC) is a chronic progressive disease involving multiple adenomatous polyps of the colon. FPC is an autosomal dominant inherited disorder¹ with an inexorable progression to cancer without colectomy.¹ FPC's lesions are confined to the entodermal germinal layer. When there is extra-colonic neoplastic involvement of the mesodermal and ectodermal germinal layers in association with the polyposis, the term Gardner's Syndrome (GS) is applied.

In 1950, Gardner and Stephens² reported the pedigree of a family with a high incidence of colonic cancer. Nine out of the 12 adult deaths were attributed to this disease. Since the mother's family and offspring were the only ones afflicted, with no incidence in the father's family, an autosomal dominant inheritance factor was indicated.

Further study of the family group demon-

strated an association of hard tumours of the head and face and soft tumours of the subcutaneous tissue with the polyposis coli.³ Gardner and Plenk⁴ studied six members of the family with both polyposis and hard tissue tumours, using cranial and forearm radiographs and biopsies of the lesions. They discovered osteomas of the mandible, maxilla, frontal, ethmoid, sphenoid and temporal bones, as well as involvement of the radius and ulna. (It was later reported that they could also occur on the femur, tibia and fibula.⁵) These same six family members also had soft tissue tumours. Gardner and Richards⁶ reported that these subcutaneous lesions could be divided into three types: epidermoid and sebaceous cysts, fibromas (desmoid tumours) and ill-defined masses of connective tissue. These soft tissue tumours usually occur on the scalp, neck and back. The three neoplasia of multiple adenomatous polyps of the colon, osteomas and soft tissue tumours form the classical triad of GS.

Various other neoplasia have been reported to occur with GS: fibrosarcoma;⁷ lipomas, leiomyomas, neurofibromas, retroperitoneal mixed tumours, mesenteric and retroperitoneal fibrous tissue tumours and fibrous-tissue infiltration of the parotid gland⁵, upper gastro-intestinal polyps located in the stomach and duodenum;^{8,9} congenital hypertrophy of the retinal pig-

ment epithelium;^{10,11} basal cell carcinoma;^{12,13} and T-cell lymphoblastic lymphoma.¹⁴ These clinical features occur less frequently than those comprising the classical triad.

An important diagnostic aspect of GS, especially for the dentist, is its dentofacial association. As well as osteomas of the jaws, multiple impacted permanent and supernumerary teeth,¹⁵⁻¹⁹ osteosclerosis⁵ and extensive dental caries^{7,19} have been reported. The association of dental caries with GS is questionable.¹⁹

The incidence of GS as reported in the literature has been quite variable.²⁰ Bochetto and his co-workers²¹ reported the incidence of GS to occur between 1:8,300 and 1:16,000 births. Jarvinen and his co-workers²² studied the incidence of osteomas, epidermoid cysts, desmoid tumours, dental anomalies, and those with the complete classical triad in 34 patients with GS. Comparing their data with three other studies,²³⁻²⁵ they reported the occurrence of any extra-colonic neoplasia could be quite variable. Ghazi, Ferstenberg and Shinga⁹ reported two cases of GS in 7346 gastrointestinal endoscopy procedures carried out over a six-year period.

The above studies have demonstrated that GS is a rare autosomal dominant disorder with variable phenotypic expression. The osteomas and soft tissue tumours usually occur prior to the symptoms or complications of the polyposis.⁵ This enables the clinician to make an accurate diagnosis before colonic cancer develops. The treatment of choice is colectomy with ileostomy and total colectomy with ileorectostigmoidoscopy with preservation of the rectum if possible.²⁶ When the rectum is left, life-long follow-up is required.²⁶

Recently, indomethacin and other non-steroidal anti-inflammatories have been utilized to reduce the desmoid tumours and polyposis.²⁷⁻²⁹

CASE REPORT

A 64-year-old white female was referred to the dental clinic at St. Mary's of the Lake Hospital from a nursing home, with a chief complaint of bleeding gums and decayed teeth.

Her medical history revealed an advanced diabetes mellitus with an associated proliferative diabetic retinopathy resulting in total blindness, atherosclerotic heart disease, hypertension, multiple polyposis of the colon with no evidence of cancer, and bilateral pain of unknown origin radiating from the cervical region down both arms. Her medication regime comprised semi-lente and ultra-lente insulin, digoxin, furosemide, potassium chloride, diazepam, naproxen, aspirin, acetaminophen with 15 mg. codeine, chloral hydrate and dimenhydrinate.

The patient was unhappy about her present state of health and was worried about developing bowel cancer. She had two brothers who died from carcinoma of the colon. When questioned further about her family history of multiple polyposis coli, she became confused and was non-contributory. She had one son living in another city who was uncooperative in this matter.

Clinical examination revealed a partially edentulous maxillary arch with the six anteriors missing. The patient was wearing an acrylic partial upper denture. The 16, 17 and 37 were severely decayed and there was a generalized chronic periodontitis with abundant calculus and materia alba. Both a panoramic radiograph (Fig. 1) and a full

mouth radiographic series (Fig. 2) were taken to evaluate her present state of oral health. The radiographs supported the clinical diagnosis.

The radiographs also revealed multiple radiopaque lesions in the mandibular and maxillary tooth-bearing areas. The appearance of multiple osteomas with possible condensing or sclerosing osteitis in association with multiple polyposis coli led to a diagnosis of GS. Her physician wanted to eliminate any possibilities of Paget's disease, so radiographs were taken of her calvarium and pelvis, plus the cervical spine and both shoulders (due to the radiating pain in this area). These all proved negative. There was no evidence of soft tissue tumours on her scalp, neck or trunk.

The patient had the 16, 17 and 37 extracted with local anesthetic and had one periodontal session to remove the existing calculus. A short time later, she became very ill and died due to myocardial infarction.

DISCUSSION

The above case report of GS was not diagnosed until the patient was 64 years of age. As she was a poor historian, we were unable to ascertain when her polyposis was first diagnosed or if the mandibular and maxillary osteomas were detected at an earlier age. No medical records were available to clarify this issue.

At the time of her presentation at the dental clinic, her multiple polyposis coli had not undergone cancerous change, although she was symptomatic for her condition. Carcinoma usually develops earlier than 64 years of age;¹⁹ therefore, she was in the older age group for the threat of cancerous transformation of the polyposis.



Fig. 1. Panorex radiograph. Note the osteoma extending into the antrums.

Her dental radiographs demonstrated both osteomas as well as possible sclerosing osteitis. An interesting aspect of the patient's presentation is that the radiopacities were confined to the tooth-bearing areas. The projection of an osteoma into both antrums is evident on the panoramic radiograph (Fig. 1). The severely decayed teeth are probably more the result of poor dental care rather than of the disease itself.

Besides the occurrence of osteomas and soft tissue tumours, other neoplasia have been reported with polyposis coli in GS. This is to be expected since autosomal dominant inherited conditions have a wide variability of expression; therefore, some neoplasia which do not fit into the classical triad may be of only chance occurrence. This could also result in the appearance of sclerosing osteitis in the tooth-bearing areas. The patient also presented with advanced diabetes mellitus, but this does not indicate that diabetes mellitus is associated with GS. The important point is that epidermoid or subcutaneous cysts and osteomas usually occur prior to the polyposis, and therefore, help the clinician, especially the dentist, to make an early diagnosis of GS.

We wish to express our appreciation to Penny Levi, Jenepher Hemsted and Linda Brown for their assistance in the research, editing and typing of this manuscript.

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Dr. Stewart is on the associate staff of St. Mary's of the Lake Hospital, Kingston, Ont.

Reprint requests to Dr. Lapeer.

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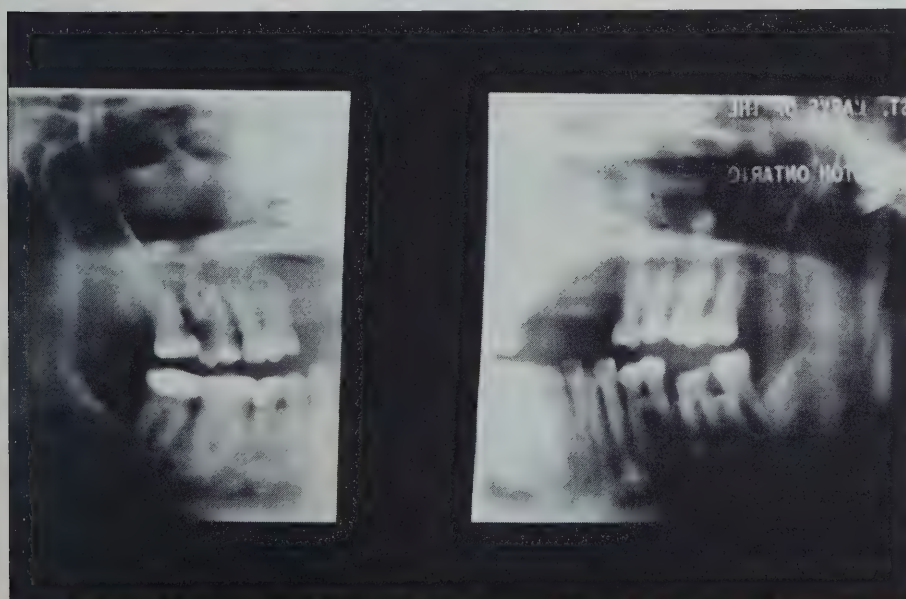


Fig. 2. Full mouth series of radiographs. Sclerosing osteitis is evident.

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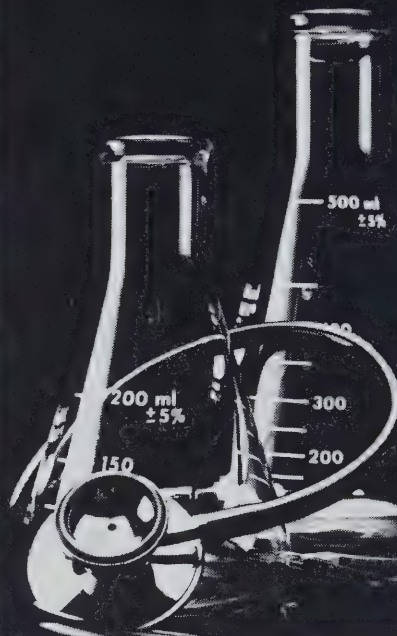
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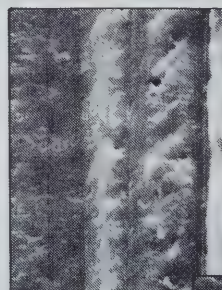


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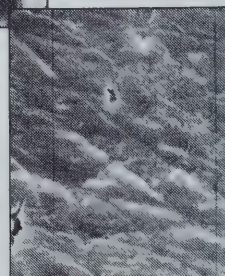
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AILERONS PLEINS À RÉTENTIONS MACROSCOPIQUES

Denis Robert, DMD, MScD
H.-Sylvie Morin, DMD, MS
René Parent, TDC

Cet article est dédié à M. René Parent, décédé des suites d'un cancer, en août, 1985. Il était l'initiateur de la technique décrite ici.

RESUMÉ

Une technique de fabrication d'ailerons servant à la rétention de ponts papillons ou de jumelages extra-coronaires est présentée dans cet article. Le nouveau type d'ailerons dit "à rétentions macroscopiques" permet de cumuler les avantages des ailerons de type "Rochette" (à perforations multiples) et de ceux de type "Maryland" (à mordançage du métal), sans en avoir les inconvénients. Un cas clinique mettant en application ces ailerons pour jumeler trois dents est aussi présenté.

This article is dedicated to Mr. René Parent, who died from the effects of a cancer, in August, 1985. He initiated the technique described in this article.

ABSTRACT

This paper presents a technique to make small wings for the retention of butterfly bridges or extra-coronal twinings. The new type of small wings called the "macroscopic retention type" combines the advantages of both the "Rochette" (multiple perforations) and "Maryland" (metal etching) types without having their disadvantages. A clinical case using these small wings to join three teeth together is given as an example.

Depuis plusieurs années, la dentisterie s'est orientée vers une conservation maximale des tissus dentaires sains. Deux des principales raisons à cette attitude sont l'amélioration des résines composites et la technique du mordançage de l'émail en raison de son potentiel rétentif et de sa valeur de scellement périphérique.

On a vu s'ouvrir de nouvelles avenues, en particulier la rétention de prothèses partielles fixées à l'émail. En 1973, Rochette¹ proposait une technique pour jumeler des dents mobiles à l'aide d'une armature cou-

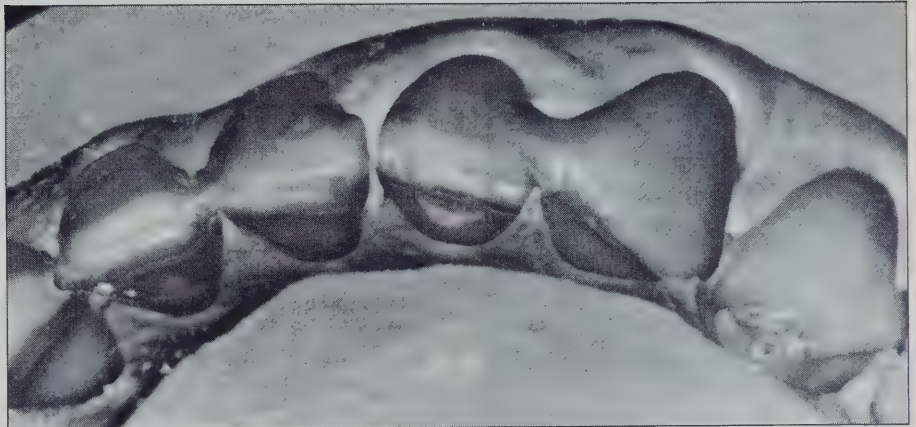


Fig. 1 Empreinte en polyvinylsiloxane des dents no. 33, 32 et 31.



Fig. 3 Première couche de cire appliquée.

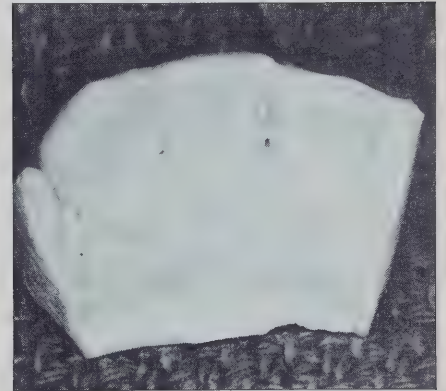


Fig. 2 Modèle en pierre réfractaire, réduit aux dimensions les plus petites possibles.



Fig. 4 Instrument à cire à bout cléoidal légèrement aplati, utilisé pour tracer les sillons dans la première couche de cire.

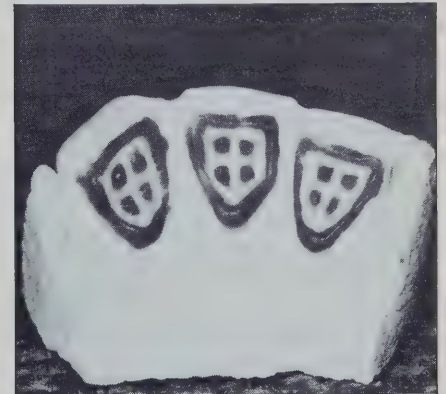


Fig. 5 Aspect de la première couche de cire, réduite à une ligne périphérique continue et à quatre îlots.



Fig. 6 Pierre réfractaire appliquée au pinceau.

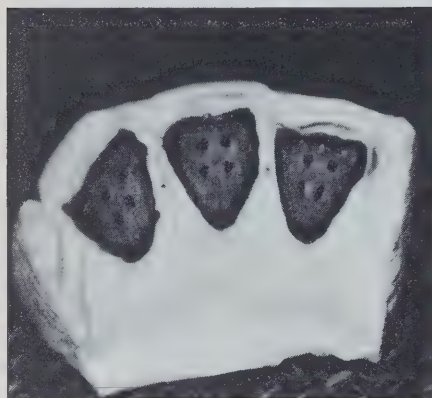


Fig. 7 Pierre réfractaire en place, laissant apparaître les quatre îlots.

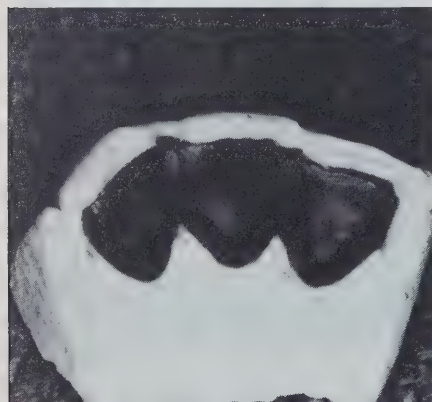


Fig. 8 Deuxième couche de cire.



Fig. 9 Intrados, montrant les îlots rétectifs et la ligne périphérique.

lée et perforée, retenue aux dents grâce au mordantage de l'émail et à l'utilisation d'une résine composite. En 1975, Howe et Denehy² suggèrent une structure métallique supportant un pontique et retenue aux dents de la même façon. Ce sont eux qui ont établi les principes de base dans la préparation des ponts papillons.

Kulkhe³ intéresse les gens de l'Université du Maryland à ce nouveau principe et en 1980, Livaditis⁴ publie une nouvelle technique pour la rétention de ces prothèses.

Depuis 10 ans, ces prothèses sont utilisées et leur haut taux de succès nous permet d'espérer un usage accru dans les années à venir⁵.

Les travaux de recherche se sont plutôt orientés vers l'aspect rétentif des attaches métalliques de ces prothèses. Plusieurs systèmes ont été mis au point à ce jour; ils présentent tous des avantages et des inconvénients.

Le premier système est celui préconisé par Rochette¹. Il s'agit d'une armature coulée et perforée. Les principaux avantages de cette technique sont la facilité d'utilisation, la possibilité d'utiliser divers alliages et l'aspect rétentif facile à évaluer. Les inconvénients se situent au niveau de la surface rétentive réduite, de la résine qui est exposée à l'usure et des perforations qui affaiblissent la structure métallique.

Un autre type d'attache est le système Maryland⁴. Des micro-rétentions sont créées à la surface interne des ailerons lorsqu'on les baigne dans une solution d'acide sulfurique ou nitrique. Une corrosion électrolytique permet une dissolution sélective de l'alliage. Les avantages sont la minceur de l'armature, la plus grande surface rétentive et la protection de la résine puisque celle-ci est complètement recouverte par la structure métallique. Les inconvénients se retrouvent au niveau de l'alliage à utiliser (celui-ci doit être "attaquable" par l'acide), le risque de contaminer la surface corrodée et l'équipement de laboratoire nécessaire.

Plusieurs compagnies offrent des systèmes préfabriqués (Dura-Lingual de Unitek, Ivoclar de Vivadent, Crystal Bond de Dental Ventures of America). Ces systèmes offrent l'avantage de présenter des rétentions macroscopiques sur toute la surface interne des ailerons et une surface externe, que l'on appelle extrados, lisse et polie. Le principal inconvénient est le coût souvent prohibitif de ces systèmes.

Le but du présent article est de décrire une nouvelle forme d'ailerons utilisés pour assurer la rétention de ponts papillons ou de jumelages extra-coronaires. Ces ailerons possèdent un avantage commun avec les ailerons de type "Rochette", à perforations multiples, en ce sens que leur fabrication ne

requiert pas d'équipement particulier de mordantage du métal, comme c'est le cas pour les ailerons de type "Maryland". Par contre, ces nouveaux ailerons ont un avantage qu'ils partagent avec les ailerons de type "Maryland", leur extrados est totalement lisse, sans perforations laissant apparaître le composite de scellement qui peut à la longue être usé, amenant une diminution de la rétention et un inconfort pour le patient.

Précisons tout de suite que ce nouveau système de rétention n'a pas encore été testé, comparativement aux systèmes à mordantage du métal ou à perforations multiples. La méthode expérimentale pour réaliser ces comparaisons est à l'étude et les résultats feront l'objet d'un article ultérieur.

Nous nous contenterons donc pour l'instant de décrire la méthode de fabrication et de présenter un cas clinique. Nous présenterons, pour simplifier, la méthode pour un aileron, méthode qui ne changera pas, quelle que soit l'utilisation de cet aileron, pour retenir un pont papillon ou pour fixer un jumelage extra-coronaire.

Méthode de fabrication d'un aileron

Il est essentiel de disposer d'une empreinte de la surface de la dent sans bulles ni manques (Fig. 1). Étant donné que l'empreinte sera envoyée au laboratoire, elle devra être faite avec un matériau dimensionnellement stable à long terme. N'importe quel matériau de polyvinylsiloxane (Reposil, Express, Président. . .) peut donc faire l'affaire.

Au laboratoire, un premier modèle en pierre réfractaire* est coulé, suivi d'un modèle en pierre artificielle dure†. Le modèle en pierre réfractaire est meulé pour ne contenir que les dents sur lesquelles seront fabriqués les ailerons (Fig. 2). Pour chaque aileron, on doit tout d'abord étendre une couche de cire dure, d'une épaisseur maximale de 0.3 mm, sur une surface aussi grande que possible (Fig. 3). La limite gingivale est située à 1 mm du bord de la gencive libre. Proximale, on doit au moins recouvrir les crêtes marginales et s'approcher du point de contact. La limite incisive sera bien entendu fonction de l'épaisseur de la dent, plus basse s'il s'agit d'une dent mince bucco-lingualement, pour éviter tout problème dû à la transparence.

Dans cette couche de cire, sont tracés des sillons formant un quadrillage. L'instrument pour les tracer doit être de forme triangulaire tronquée (un discoïde-cléïde, dont le bout cléïdal est légèrement meulé avant d'être utilisé) (Fig. 4). Il est à remarquer ici

* Thermovest, Kerr, Romulus, Michigan, USA.

† Vel Mix, Kerr, Romulus, Michigan, USA.

que l'instrument peut laisser une marque dans le matériau réfractaire sans que cela porte à conséquence.

La couche de cire a donc été réduite à un certain nombre d'îlots, entourés d'une ligne de cire continue en périphérie. Cette ligne continue ne doit pas être interrompue sous peine d'augmenter les risques de dissolution du composite de scellement (Fig. 5).

De la pierre réfractaire est préparée et déposée avec un pinceau (Fig. 6) dans les sillons de telle manière qu'elle laisse chacun des îlots de cire effleurer la surface et qu'elle ne débord pas sur la ligne de cire périphérique. Les îlots, de même que cette ligne périphérique, doivent être parfaitement visibles (Fig. 7). Une fois que la pierre réfractaire a durci, une seconde couche de cire, d'une épaisseur voisine de 0.3 mm est étendue sur toute la surface, rejoignant la ligne périphérique et se fondant avec elle pour constituer les limites de l'aileron (Fig. 8).

Si l'aileron est utilisé pour un jumelage extra-coronaire, il suffit d'étendre la deuxième couche de cire pour qu'elle rejoigne les ailerons adjacents.

Si, par contre, l'aileron est utilisé pour retenir un pont papillon, on peut, du côté de l'espace édenté, le prolonger sur la surface proximale et le relier au squelette métallique de la dent postiche.

Le cirage terminé, une tige de coulée par aileron est placée dans la région incisive, formant un angle d'environ vingt degrés par rapport à la surface linguale de l'aileron. Les tiges sont réunies ensemble et le tout est investi.

Le métal utilisé* est un alliage non précieux possédant une bonne rigidité pour une épaisseur minime.

Après la coulée, un nettoyage ultrasonique élimine les particules de matériel à investissement présentes entre les îlots de métal (Fig. 9).

Aspect de l'aileron terminé

L'extrados est lisse et poli (Fig. 10).

L'intrados, défini comme étant la surface interne de l'aileron, présente une ligne périphérique, dont la distance la séparant de la dent ne sera limitée que par l'épaisseur en couche mince du composite de scellement. De plus, des îlots de métal à morphologie rétentive sont répartis uniformément sur la surface.

Cas clinique

Il s'agit d'une patiente de 49 ans ayant eu la dent no. 32 complètement avulsée à la suite d'un accident. La dent ayant été réimplantée immédiatement après l'accident, elle a été jumelée temporairement le

lendemain avec un composite photopolymérisable* déposé au buccal des points de contacts proximaux avec les dents voisines, après mordantage de l'émail durant soixante secondes, rinçage et séchage et application d'une couche de résine liquide† (Fig. 11).

La dent ne répondant pas au test électrique de vitalité pulpaire une semaine après l'accident, le traitement endodontique a été prescrit. Lors de ce traitement, il a été constaté qu'une portion du tiers apical d'environ trois mm de longueur était séparée du reste de la dent et n'avait par conséquent jamais été avulsée. Cette portion du tiers apical a pu être obturée avec de la gutta percha lors du traitement de canal (Fig. 12).

Trois mois après le traitement endodontique, une radiographie de contrôle n'a pas révélé de pathologie périapicale et il a alors été décidé de placer un jumelage extra-coronaire qui allait relier entre elles les dents no. 33, 32 et 31.

Ce jumelage a été réalisé selon la technique décrite antérieurement dans cet article, technique dite d' "ailerons pleins à rétentions macroscopiques". Pour éviter d'ébranler ou de déplacer la dent no. 32 durant les procédures de prise d'empreinte en particulier, le jumelage temporaire réalisé avec un composite au buccal a été laissé en place. Il a aussi servi à stabiliser cette dent pour éviter tout déplacement entre le moment de la prise d'empreinte et la mise en place du jumelage, ce qui aurait occasionné un problème d'ajustement.

Ce jumelage temporaire a cependant été éliminé complètement à l'aide de fraises à finir carbidées et d'un usage délicat de bandes sablées au début de la séance réservée à la mise en place du jumelage extra-coronaire, ceci, permettant la pose de la digue de caoutchouc. L'utilisation d'une digue de caoutchouc est en effet hautement recommandée. Elle doit cependant être très bien inversée proximale et linguale, de manière à éviter de la coincer entre la dent et l'aileron lors du scellement.

Une fois la digue en place, les surfaces linguales des dents no. 33, 32 et 31 ont été nettoyées avec une poudre ponce fine.

L'obturation temporaire présente dans la cavité d'accès a été enlevée et la chambre pulpaire nettoyée de tout débris. Deux couches d'adhésif dentinaire** ont été placées sur la dentine à l'intérieur de la chambre pulpaire et un composite photopolymérisable†† inséré et polymérisé par épaisseurs successives de deux millimètres, jusqu'à un niveau légèrement en-deçà de la

* Prisma Fil, L.D. Caulk, Milford, Delaware, USA.

† Prisma Bond, L.D. Caulk, Milford, Delaware, USA.

** Scotchbond, 3M, St-Paul, Minnesota, USA.

†† Prisma Fil, L.D. Caulk, Milford, Delaware, USA.

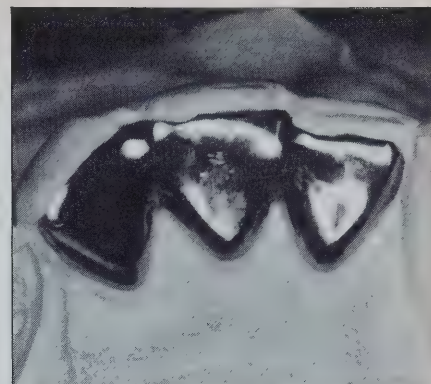


Fig. 10 Extrados, après polissage.

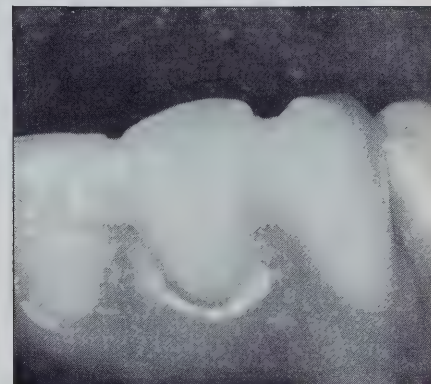


Fig. 11 Dents no. 33, 32 et 31 temporairement jumelées.

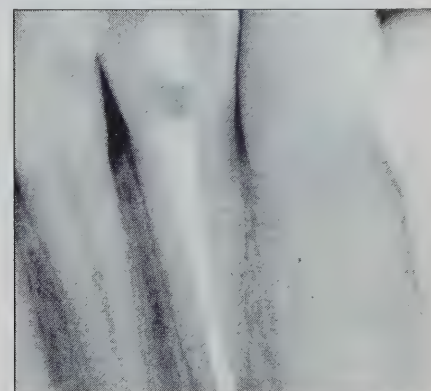


Fig. 12 Traitement endodontique de la dent no. 32, montrant l'apex fracturé mais néanmoins obturé (traitement endodontique réalisé par le docteur Johanne Bordua, Sillery, Québec).



Fig. 13 Jumelage à ailerons pleins à rétentions macroscopiques en place.

* Genesis, Jelenko, Armonk, New York, USA.

surface linguale de la dent pour éviter toute interférence avec l'intrados du jumelage lors de la cimentation.

Deux feuilles de matrice en celluloïd ayant été placées entre les dents no. 33 et 34 d'une part, et 31 et 41 d'autre part, les surfaces linguales et proximales des trois dents à jumeler ont été mordancées avec de l'acide phosphorique à 37 pour cent pendant une minute, puis rincées à l'eau pendant 45 secondes et séchées à l'air pendant 15 secondes.

Le composite de scellement utilisé doit avoir une épaisseur en couche mince la plus faible possible. Il est donc impossible d'utiliser un composite conventionnel à macro-particules (Concise, Adaptic. . .). L'utilisation d'un composite photopolymérisable est bien entendu hors de question. Il est donc recommandé d'utiliser un composite spécialement développé pour ce genre d'utilisation*. Quant à savoir s'il faut déposer une couche de résine liquide sur l'intrados avant d'appliquer le composite de scellement, seule l'expérimentation en laboratoire permettra de répondre à cette question. On peut néanmoins avancer l'hypothèse qu'une telle couche de résine liquide est inutile à cet endroit étant donné que le mécanisme de rétention est ici macroscopique et non microscopique comme c'est le cas avec l'émail ou le métal mordancé.

Une couche mince de résine liquide a été placée sur les surfaces linguales des dents, le composite de scellement a été mélangé selon les instructions du fabricant et placé sur l'intrados du jumelage. Le jume-

lage métallique a été porté en place et, après vérification de sa bonne position, maintenu fermement durant la période de prise du composite, en exerçant une pression linguale sur la pièce de métal et buccale sur les dents pour assurer un contact aussi intime que possible entre les deux éléments.

Après polymérisation complète du composite, les excès ont été enlevés avec des fraises à finir les composites* et des instruments manuels†. La digue a ensuite été retirée et l'intégrité du système de jumelage vérifiée (Fig. 13).

DISCUSSION ET CONCLUSION

Comme il a été précisé au début de cet article, ce nouveau système de rétention n'a pas encore été comparé aux plaques métalliques de types "Rochette" et "Maryland".

Toutefois, le comportement clinique de ce nouvel aileron étant satisfaisant jusqu'à ce jour, il nous est permis d'en recommander l'utilisation pour une durée que l'on peut qualifier actuellement de temporaire à long terme.

Une première observation de ce genre d'aileron permet de constater que l'inconvénient majeur pouvant survenir puisse être relié à l'épaisseur. Cette épaisseur se situe actuellement aux environs de 0.6 mm. Des raffinements dans la technique de fabrication devraient permettre de la réduire pour autoriser l'utilisation de ces ailerons même

* Fraises au carbure de tungstène, no. 7901, 7802, 7006. Jet Beaver Dental Products Ltd, Morrisburg, Ontario, Canada.

† "Carbide composite carvers", Brasseler USA Inc., Savannah, Georgia, USA.

dans des endroits où l'espace disponible est restreint.

Pour vérifier la validité de ce nouveau concept, une étude sera effectuée dans un premier temps pour déterminer la quantité des îlots rétentifs de même que l'espacement entre ceux-ci. Une fois la configuration optimale déterminée, elle sera comparée aux systèmes d'attaches de types "Rochette" et "Maryland".

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UNE QUESTION D'ÂGE ?

Le déchaussement des dents n'est pas la marque des ans, mais celle de la périodontite qui est la *principale* cause de la perte des dents chez les adultes. Pour prévenir la maladie, il faut prendre un soin minutieux de ses dents et voir le dentiste régulièrement.



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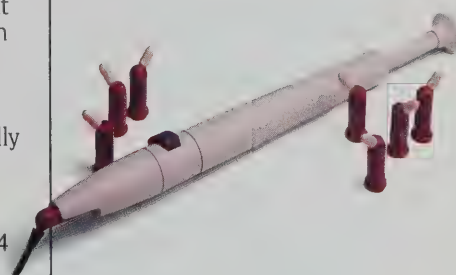
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²Sveen, O. B.; Jensen, O.: "A Clinical Evaluation of Pit & Fissure Sealants after 24 Months." Unpublished data available on request.



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PROGRAM

8:30	Opening Remarks	Dr. Crawford Bain <i>Head, Div. of Periodontics Dalhousie University Faculty of Dentistry</i>
8:45	CURRICULUM CHANGES BASED ON CHANGING DISEASE PATTERNS	Dr. Jukka Ainamo <i>Chief, Epidemiology National Institute of Dental Research Bethesda, Maryland</i>
9:45	CURRICULUM CHANGES BASED ON TEACHING ADVANCES	Dr. John Eisner <i>Assoc. Prof. of Community Dentistry Faculty of Dentistry Dalhousie University</i>
10:45	Coffee	
11:00	CURRICULUM CHANGES BASED ON RESEARCH DEVELOPMENTS	Dr. Max Listgarten <i>Chairman, Dept. of Periodontology University of Pennsylvania Philadelphia, P.A.</i>
12:15	INTERDISCIPLINARY RELATIONS — IMPLEMENTA- TION OF CHANGE IN A DENTAL FACULTY	Dr. David Donaldson <i>Assistant Dean Faculty of Dentistry University of British Columbia</i>
1:00 –		
3:00	Working Lunch	
WORKING GROUP RESPONSES/RECOMMENDATIONS		
3:00 –	DISEASE PATTERNS	Dr. Tevor Chin Quee <i>Director, Div. of Periodontics Faculty of Dentistry, McGill Univ.</i>
3:15		
3:15 –	TEACHING ADVANCES	Dr. Paul Schuller <i>Chairman, Div. of Periodontics Faculty of Dentistry, Univ. of Alberta</i>
3:30		
3:30 –	RESEARCH DEVELOPMENTS	Dr. David Singer <i>Head, Dept. of Diagnosis & Surgical Sciences (Periodontics) College of Dentistry, Univ. of Saskatchewan</i>
3:45		Dalhousie's Dean Elect
3:45 –	IMPLEMENTATION	
4:00	Coffee	
4:15 –	PANEL DISCUSSION	
5:00		
5:15	Cocktails	
P.M.	Dinner	

This meeting immediately preceeds the Canadian Academy of Periodontology Annual Scientific Meeting at the Halifax Sheraton, June 21-23. Speakers include Dr. Max Listgarten and Dr. Manny Marks, University of Pennsylvania. For information, contact: Dr. C.A. Bain, Chairman, CDA Teaching Conference, Head, Division of Periodontics, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia, B3H 3J5.

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The Interim Meeting of the Board of Governors of the Canadian Dental Association will be held on April 4-5, 1986 (Friday and Saturday respectively) at the Four Seasons Hotel, Ottawa, Ontario, commencing at 9:00 a.m. on April 4.

It is brought to your attention that meetings of the Board of Governors are open to all members of the Association.

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Previously unpublished articles, critical reviews of material on advances in dentistry and clinical reports are welcomed by the Journal of the Canadian Dental Association for consideration for publication. Material is accepted by the Journal on the understanding it is submitted solely to this publication.

Scientific Articles: should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

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Clinical Reports: are brief (up to 1,500 words) reports, case histories and clinical observations. References should be limited and a minimum number of illustrations used.

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Word Count: is based on the calculation of approximately 250 words typed, doubled-spaced on 8 1/2 x 11 paper.

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A covering letter and a summary of the submission must accompany each article. Abstracts will be translated into French. The full mailing address of the corresponding author must accompany each manuscript.

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1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. *JCDA* 44:173-184, 1978.

For books, give the author's name, book title, location and name of publisher, year of publication:

2. Kilpatrick, H.C. Work simplification in dentistry, ed. 2. Philadelphia, Saunders, 1964.13

Permission and Waivers: must accompany the manuscript. Waivers are mandatory for the publication of photographs of patients unless faces are masked to prevent identification. Waiver forms are available from the Journal of the Canadian Dental Association, Ottawa. Permission of the author and publisher must be obtained for use of previously published material quoted in the text and for use of previously published illustrations.

Costs: Four-color illustrations are discouraged because of increasing costs of reproduction but requests for four-color illustrations will be considered on an individual basis, at the author's expense. Most articles are published at no cost to the author but a fee will be levied if extensive illustrative, formular, tabular or photographic matter is used.

Reprints: are available. Reprint request forms will be mailed to the corresponding author after the article is published and 25 reprints are available free of charge.

Review: all scientific articles are reviewed by selected consultant referees. Acceptance or rejection of an article for publication is based on their reports plus editorial consideration. The editor reserves the right to adjust manuscripts to conform to Journal style.

Please direct all enquiries to: The Editor, Journal of the Canadian Dental Association.

Announcements

APRIL/AVRIL 1986

April 7-12 1986: 23rd International Dental Show and German Dentists' Conference in Cologne, Germany. Contact: Messe-und Ausstellunge-Ges. m.b.h. Koln, Messeplatz, Postfach 210760, D-5000 Koln 21 (Deutz) West Germany.

April 10-13: American Medical Association 7th National Conference on the Impaired Physician, entitled "Impairment and Well-Being of Health Professionals: A Family Affair." Hilton Hotel and Towers, Chicago, Ill. Contact: American Medical Association, 535 North Dearborn St., Chicago, Ill. 60657.

April 11: 3rd annual John A. Sherman Memorial Lecture presented by the Alpha Omega Fraternity, Skyline Hotel, Toronto, Ontario. Speaker is Dr. J.O. Andreasen on "Dental Traumatology." Contact: Alpha Omega, 2016 Bathurst St., Toronto, Ontario, M5P 3L1 or call 416-782-7277.

April 11-12, Alberta Academy of Periodontics Symposium, Calgary Convention Centre. Speaker: Dr. Robert Genco of Buffalo, N.Y. Dept. of Oral Biology, University of New York. Contact: Dr. M.P. Miller, 302-2303 4th Street S/W, Calgary, or call (403) 228-5907.

April 12-14: 64th Annual Scientific Session of the Michigan Dental Hygienists Association. Omni International Hotel, Detroit, Michigan. Contact: MDHA Central Office, Katherine Radcliffe, Executive Director, 1609 E. Kalamazoo St. Suite 11, Lansing, MI 48912, 517-484-1352.

April 22: Dynamic Practice Management for the entire dental team by Linda L. Miles. Dental Dynamics, Inc. of Virginia. Westin Hotel, Edmonton. Sponsored by Alberta Academy of General Dentistry. Contact: Dr. Henry C. Yu, 10025-106 St., Edmonton, Alberta, T5J 1G4, (403) 428-9188.

April 26-27, Dr. Daniel Garliner of the Institute for Myofunctional Therapy, Coral Cables, Florida. Sponsored by the

International Dental Institute (I.D.I.) Inc. Course location, Montreal, call Diane Baillargeon at (514) 463-1281 for details.

MAY/MAI 1986

May to October 1986: Vancouver and District Dental Society in conjunction with the Inter-Specialty Dental Society of British Columbia will be presenting multidisciplinary seminars, endorsed by the College of Dental Surgeons of British Columbia, from May through October 1986 to coincide with Expo '86. Limited Attendance. Inquire early by contacting Susan Ryan, c/o Vancouver and District Dental Society, 1125 West 8th Avenue, Vancouver, B.C. V6H 3N4. 604-734-0717.

May 1-4, 1986: Alabama Implant Congress XII, Birmingham, Alabama. Contact: The Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama, 35206, 205-836-2211.

May 2-4, 1986: The 2nd International Symposium on Periodontics and Restorative Dentistry. Westin Hotel, Boston Mass. Sponsored by Quintessence Publishing Co. Inc. Contact: Quintessence Publishing Co. Inc. 8 South Michigan Ave. Chicago Ill. 60603. 312-782-3221.

May 11: American Academy of Oral Medicine - American Academy of Oral Pathology joint Symposium on Viral Diseases. Westin Hotel, Toronto, Ontario. Contact either: Dr. Dean K. White, University of Kentucky College of Dentistry, Lexington, KY, 40536 or Dr. Norman S. Alperin, Suburban Hospital, 4200 Warrensville Center Road, Cleveland, Ohio 44122.

May 11-14, 1986: Ontario Dental Association 119th Annual Spring Session. The Sheraton Centre Hotel, Toronto. Contact: Diana Thorneycroft, 234 St. George St., Toronto, Ontario, M5R 2P1.

May 12-16: 40th Annual Meeting of the American Academy of Oral Pathology, Westin Hotel, Toronto, Ontario. Contact: Dr. Dean K. White, University of Kentucky College of Dentistry, Lexington, Kentucky, 40536 USA.

May 21-23, 1986: International Life Sciences Institute, Symposium on Sweetness. International Conference Centre of Geneva, Switzerland. Contact: Symposium Secretariat, Conference Associates ILSI, 27A Medway Street, Westminster, London SW1P 2BD, England.

May 21-23, 1986: Expodent 1986 Trade Fair and Congress for Present Day Dentistry and Dental Technology. Utrecht, Holland. Contact: Royal Netherlands Industries Fair, Postbus 8500, 3503 RM, Utrecht Holland.

May 23-26, 1986: The 34th Annual Fitzgerald Dental Radiology Workshop will be held at the Delta Mountain Inn, Whistler, B.C. Contact: Dr. O.F. Wright, #330-5655 Cambie St. Vancouver, B.C. V5Z 3A4, 604-261-8021.

May 25-29, 1986: Journées Dentaires du Québec. Palais des Congrès de Montréal, Québec. Pour informations, communiquer avec le docteur Michel Jahjah, président du Conseil de gestion des Journées dentaires, 625 boul. Dorchester ouest, 5^e étage, Montréal, Québec H3B 1R2, Tél: 514-875-8511.

JUNE/JUIN 1986

June 7-8: Dr. Henri Petit, Orthodontist at Baylor University, Dentalfacial Orthopedics. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Baillargeon at (514) 463-1281 for details.

June 7-13: Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada is holding the ACFD/CADR XIV Biennial Conference on Dental Education and Research. The Nottawasaga Inn, Alliston, Ontario (North of Toronto.) Contact: Mrs. Stella M. Taylor, Administrative Assistant, The Association of Canadian Faculties of Dentistry, 5059 Dentistry Pharmacy Building, University of Alberta, Edmonton, Alberta, T6G 2N8, 403-463-8371.

June 20-23: Canadian Academy of Periodontology Annual Scientific Meeting and National Periodontal Teaching Conference. Sheraton Hotel, Halifax Nova Scotia. Contact: Dr. Ed Hannigan, 590-5991 Spring Garden Road, Halifax, N.S. B3H 1Y6.

June 22-23: The International Conference on Ventures in Dental Materials, Kurhause Hotel, Scheveningen-The Hague, Holland. For further information contact: Sybil Greener, Academy of Dental Materials, Northwestern University Dental School, 311 East Chicago Ave., Room 10-019, Chicago, Ill. 60611, 312-943-8410.

June 26-29, 1986: 10th International Symposium on Dental Hygiene. Oslo, Norway. Scandinavia Hotel. Contact: The Scientific Committee, 10th International Symposium on Dental Hygiene, P.O. Box 438, 1301 Sandvika, Norway. For more information contact either Inger-Lise Bryhni or Elisabeth Olsen Kolbjornsen at the above address.

June 27-28: Joint meeting, Association of Prosthodontists of Canada and Canadian Academy of Prosthodontics in conjunction with Expo '86, Vancouver, B.C. Canada. Contact: Dr. C. Osadetz, 1046 Dentistry/Pharmacy Building, University of

Alberta, Edmonton, Alta. T6G 2N8. 403-432-3631.

June 30-July 4: The 8th Congress of the International Association of Dentistry for the Handicapped, Bergen, Norway. Contact: Dr. Marit Moland, Helsm Vei 19, 5032 Minde, Norway.

June 30-July 7: Yukon Dental Association's 6th Annual Summer Convention. June 28-29 Continuing Education Seminar in Whitehorse, Yukon. June 30-July 7, Midnight Sun Canoe Trip. Contact: Dr. Chuck Hazen, 5110-5th Ave. Whitehorse, Yukon. Y1A 1L4, 403-668-6707.

JULY/JUILLET 1986

July 1, 1986: Applications are being accepted for the **Postdoctoral program, Dental Diagnostic Science at the University of Texas,** Health Science Center at San Antonio for the class beginning **July 1, 1986.** Address inquiries to: Office of the Associate Dean for Advanced Education, The Dental School, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio TX. 78284.

July 4-6: Dentistry '86, the British Dental Association Annual and Scientific Meet-

ing. Manchester, England. Contact: Helen MacKay, Meeting Planner, 64 Wimpole St. London, W1M 8AL.

July 6-11, 1986: The World Dental Conference, Jerusalem, Israel. Deadline for submission of Abstracts: **March 15, 1986.** Contact: Rifka Boruchowicz or Dalia Raif, convention co-ordinators, Diamond International Tours Inc, 1183 Finch Avenue, Suite 203, Downsview, Ontario. M3J 2G2, 416-663-9100.

AUGUST/AOÛT 1986

August 22, 23, and 24: Dr. Waldemar Brehn, Advanced Mechanics. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Baillargeon at (514) 463-1281 for details.

August 24-27, 1986: Canadian Dental Association Annual Convention. Halifax Nova Scotia. Contact: CDA, 1815 Alta Vista Dr. Ottawa, Ont. K1G 3Y6.

August 25-29, 1986: Biennial Conference of the New Zealand Dental Association, Wellington, New Zealand. Contact: Conference Secretary, New Zealand Dental Association, P.O. Box 3709, Wellington, New Zealand.



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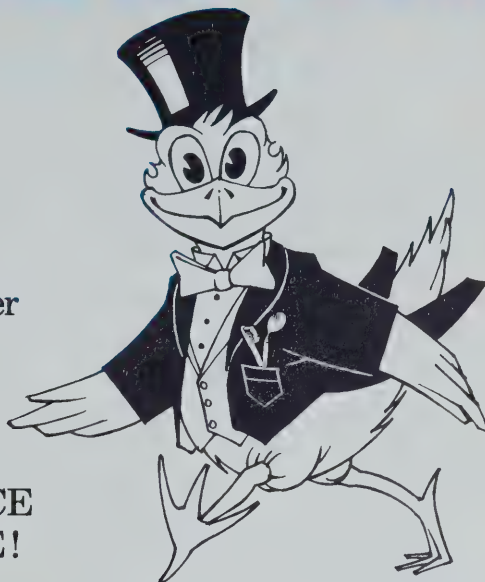
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CONFÉRENCE DE L'ADC SUR L'ENSEIGNEMENT LA PARODONTIE ET LES PROGRAMMES D'ÉTUDES DENTAIRES

Hôtel Sheraton de Halifax — le vendredi 20 juin 1986

PROGRAMME

- | | | |
|---|---|---|
| 8h30 | Mot de présentation | D ^r Crawford Bain
<i>Directeur de la Parodontie</i>
<i>Fac. de médecine dentaire</i>
<i>Univ. Dalhousie</i> |
| 8h45 | MODIFICATION DES PROGRAMMES D'ÉTUDES
SUIVANT LES CHANGEMENTS DANS L'ÉVOLUTION
DES MALADIES | D ^r Jukka Ainamo
<i>Directeur de l'Épidémiologie</i>
<i>National Institute of Dental Research</i>
<i>Bethesda, Maryland</i> |
| 9h45 | MODIFICATION DES PROGRAMMES D'ÉTUDES
SUIVANT LES PROGRÈS DE L'ENSEIGNEMENT | D ^r John Eisner
<i>Prof. adjoint de médecine dentaire communautaire</i>
<i>Univ. Dalhousie</i> |
| 10h45 | Pause-café | |
| 11h00 | MODIFICATION DES PROGRAMMES | D ^r Max Listgarten
<i>Directeur de la Parodontologie</i>
<i>Univ. de la Pennsylvanie</i>
<i>Philadelphie, Penn.</i> |
| 12h15 | RAPPORTS INTERDISCIPLINAIRES — MISE EN
VIGUEUR DE CHANGEMENTS DANS UNE FACULTÉ
DE MÉDECINE DENTAIRE | D ^r David Donaldson
<i>Vice-doyen</i>
<i>Fac. de médecine dentaire</i>
<i>Univ. de la Colombie-Britannique</i> |
| 13h00– | Déjeuner et groupe de travail | |
| 15h00 | | |
| RÉPONSES ET RECOMMANDATIONS DU GROUPE DE TRAVAIL | | |
| 15h00– | L'ÉVOLUTION DES MALADIES | D ^r Trevor Chin Quee
<i>Directeur de la Parodontie</i>
<i>Fac. de médecine dentaire</i>
<i>Univ. McGill</i> |
| 15h15– | LES PROGRÈS DE L'ENSEIGNEMENT | D ^r Paul Schuller
<i>Directeur de la Parodontie</i>
<i>Fac. de médecine dentaire</i>
<i>Univ. de l'Alberta</i> |
| 15h30 | | |
| 15h30– | LES PROGRÈS DE LA RECHERCHE | D ^r David Singer
<i>Directeur du Diagnostic et de la Chirurgie (Parodontie)</i>
<i>Collège de médecine dentaire</i>
<i>Univ. de la Saskatchewan</i> |
| 15h45 | | |
| 15h45– | MISE EN VIGUEUR | Le doyen désigné de l'Univ. Dalhousie |
| 16h00 | | |
| | Pause-café | |
| 16h15– | DÉBAT | |
| 17h00 | | |
| 17h15 | Réception Dîner | |

Cette assemblée précède immédiatement la tenue de l'assemblée scientifique annuelle de l'Académie canadienne de parodontologie qui aura lieu du 21 au 23 juin, à l'hôtel Sheraton de Halifax. Parmi les orateurs, il y aura le D^r Max Listgarten et le D^r Manny Marks, de l'Université de la Pennsylvanie. Pour de plus amples renseignements, on vous prie de communiquer avec: le D^r C.A. Bain, président de la Conférence de l'ADC sur l'enseignement, Directeur de la Parodontie, Faculté de médecine dentaire, Université Dalhousie, Halifax, Nouvelle-Écosse, B3H 3J5.

Those interested in presenting a

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or
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at the 1986 Canadian
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National Convention
to be held
in Halifax, Nova Scotia
August 24 to 27, 1986
are invited to contact:

Projected clinics are defined as a 20 minute
slide presentation on a typical clinical or
research project followed by a 10 minute
discussion period.

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table-top demonstration, of 5 to 7 minutes
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Please include:

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- Brief synopsis of content
- Background of presenter
- Equipment requirements

Si vous désirez présenter une

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CLINIQUE
ou un**

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Un projet clinique comprend une présentation
de diapositives de 20 minutes portant sur un
sujet clinique ou un travail de recherche
d'intérêt courant, et suivie d'une période
de questions de 10 minutes.

Une démonstration clinique est une brève
démonstration qui peut se faire sur une table et
être répétée toutes les 5 ou 7 minutes. Les
démonstrateurs peuvent avoir recours à du
matériel visuel.

Veuillez donner les renseignements suivants:

- le titre de votre démonstration ou projet
- un résumé du contenu
- votre curriculum vitae
- l'équipement dont vous aurez besoin.

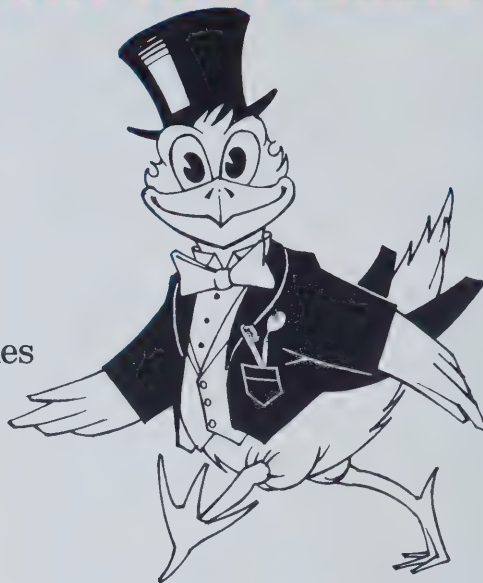
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BRITISH COLUMBIA—Vancouver Island. Established, efficient, modern dental practice for sale. Very reasonably priced. For details write to 180 South McCarthy Street, Campbell River, B.C. V9W 5M5.

ALBERTA—Dental office for sale, Edmonton, Alberta, due to retirement. Very low price \$7,500. Please call (403) 436-4852 or 433-0308.

ALBERTA—Central—Available now. Well established family practice with six figure net, for sale. Attractive price, could be paid off within one year. Fine recreational area (nearby National Park). Present owner prepared to associate if desired. Please reply to CDA Box No. 2307.

ALBERTA—"Sale or Associate/Purchase Contract". Family practice nine years old. Very well equipped. Shared office expense. Very reasonably priced. Returning to U.S. Please reply to CDA Box No. 2308.

SASKATCHEWAN—Excellent opportunity to build up a practice in association with a dentist leading to outright purchase. This well established family practice is located in a fully serviced community of 15,000 with a large surrounding population. Two fully equipped operatories for 4-handed dentistry, one hygiene room, space for panorex and extra operator. Please reply to CDA Box No. 2313.

NORTHERN ONTARIO—Prosperous family practice in professional building for sale. Two fully equipped operatories (Space-line), reception and business area, shared large lab and darkroom. Area with high employment and high rate of insurance coverage. Ideal situation for outdoor recreation. Present owner relocating to Toronto but willing to assist in transition for limited time. Please reply to CDA Box No. 2267.

SOUTHWESTERN ONTARIO—Successful established family practice for sale in small town near major centres. Goodwill & owner's share of modern group facility, equipment & real estate. An excellent opportunity for one year's present gross. Please call (O) 519-738-2676 or (H) 519-776-6277.

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ALBERTA—Associate Required in one of Alberta's finest outdoor areas, Fort McMurray. Progressive, conscientious associate needed for a satellite office in this community. Must be willing to work extended hours. Excellent opportunity for the right person. Phone: Dr. E.M. Zysko at (403) 743-5958 (O) or (403) 791-9380 (R).

ALBERTA—Jasper. Associate wanted for very busy progressive family practice in Jasper National Park. Excellent opportunity for quality oriented confident grad or experienced dentist. Flexible hours to maximize benefits of the area for another outdoor oriented practitioner. Starting June 1986. Contact: Dr. David W. Regehr at (403) 852-3018 or 852-4824.

SASKATCHEWAN—Major Saskatchewan city requires five associates for a high profile, extended hour, general and emergency dental practice. Please contact CDA Box No. 2306.

ONTARIO—Toronto. Associate required for patient oriented quality group general practice. Experience preferred. Please reply to CDA Box No. 2283.

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ONTARIO—University of Toronto, Faculty of Dentistry. Three residency positions available in General Dentistry, June 1986 – May 1987. Applications are invited for these residency positions which include patient treatment, teaching experience with undergraduates and rotation to two major teaching hospitals. Residents also service the Faculty Mobile Clinic for two 2-month rotations. Applicants must be licensed within the Province of Ontario. Please write: Dr. C.O. Munroe, University of Toronto, Faculty of Dentistry, 124 Edward Street, Toronto, Ontario M5G 1G6 or telephone (416) 979-4368.

ONTARIO—Our Etobicoke group practice is expanding, and we will need to add another hygienist to enable us to continue to provide quality preventive care for our patients. This position will be available in April, after we have moved into our new office. If you are interested in joining a team that is providing comprehensive care to a full range of patients, from paed to adult, please contact Mrs. Jone McKenzie at 416-621-4172.

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ADVERTISING INDEX

Ash Temple Limited	239
C.D.S.P.I.	186, 223, 239, 242
Colgate-Palmolive Canada	216
Conference Travel of Canada Inc.	238
Den-Mat Corporation	IBC
Identify Canada Ltd.	221
Hoechst Canada Inc.	210
Kerr Canada	224
L.D. Caulk	233
Nobelpharma Canada Inc.	184, 185
Premier Dental (Canada) Inc. . .	228
Procter & Gamble Inc.	IBC
The Alberta Academy of Periodontics	222
The University of British Columbia	222, 228
Tri Hawk International Inc.	204, 205, 234
Trident Dental Centres	208, 209
Warner-Lambert Canada Inc. . .	215
Washago Lions Medical Clinic . .	207
Wright Dental Canada Limited . .	IBC

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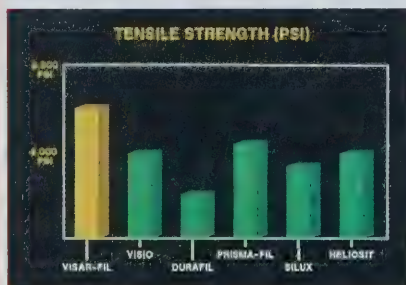


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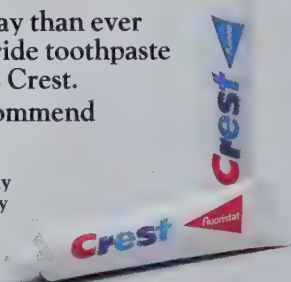
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JOURNAL

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EDITORIAL 253

Should dental students be trained at a technical institute? Dr. John Hardie asks.

NEWS UPDATE 254

The CDA has achieved success in having federal sales tax removed from some dental materials.

Past CDA President, Dr. James Coupland, dies in Ottawa.

Dr. Orville Heschuk heads Manitoba Association.

Miss Penny Waite passes in Saskatoon.

Convention '86 — an overall look.

President's Column.

'Ad Lib' Column.

BRIEFLY 267

Dental news items from across Canada and around the world.

BOOK REVIEWS 271

Clinical and Oral Microbiology

Orthodontics: Current Principles

Happiness and Fulfillment in Dentistry

Fluoride in Preventive Dentistry

An Outline of Periodontics

CDA RESOURCE CENTRE 275

Articles available from the CDA Resource Centre/Library on the subject of The Dental Staff.

ARTICLES 277

INDIVIDUAL BELIEFS AND EXPECTATIONS IN DENTAL HEALTH PRACTICES 277

Dr. A.S. Gray, Donna Marie Gunther

REPORT OF THE COMMITTEE ON SALARIED DENTISTS 280

Brig.-Gen. James N. Wright

CONTINUING EDUCATION 299

Courses being conducted during the next few months at faculties of dentistry and other locations.

CLINICAL FEATURE 307

ROOT AMPUTATION AND HEMISECTION: INDICATIONS, TECHNIQUE AND RESTORATION 307

Dr. Eugene Kryshchak

SCIENTIFIC 309

AN UNCOMMON ADVERSE EFFECT FOLLOWING BOLUS ADMINISTRATION OF INTRAVENOUS DEXAMETHASONE 309

Dr. Denis Andrews, Victor J. Grunau

EFFECT OF SURGICAL TRAUMA AND POLYLACTATE CUBES AND GRANULES ON INCIDENCE OF ALVEOLAR OSTEITIS IN MANDIBULAR THIRD MOLAR WOUNDS

Dr. J.H. Brekke et al

DEFINITIVE TREATMENT OF RECURRING REPARATIVE CENTRAL GIANT CELL GRANULOMA: 10 YEAR FOLLOW-UP 323

Dr. F.W. Lovely et al

L'IBUPROFÈNE* EN POST ET EN PRÉ-OPÉRATOIRE EN CHIRURGIE BUCCALE 325

Dr. J.-Y. Turcotte

CDA RSP 269

OBITUARIES 276

ANNOUNCEMENTS 333

MARKETPLACE 338

ADVERTISERS' INDEX 340

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VARSITY "BLUES"

Many prestigious universities recognize athletic prowess by awarding "blues". These colours are worn with justifiable pride. They are honours not easily obtained.

The "blues" have another connotation. The word conveys the sadness and melancholy which inspired American jazz. Unfortunately this meaning describes the current relationship between our profession and universities.

The paranoia, expressed by academics regarding the acceptance of dentistry as a university discipline, was lessened during the sixties and early seventies when there was a reasonable supply of government funding to sponsor many intellectual pursuits. This suspicion has returned during the fiscal restraints of the eighties, and is being voiced by respected members of the dental community. Dr. Ten Cate (Dean of Dentistry, University of Toronto) in a recent article in this Journal, admits that Dentistry will remain a poor relation of the university family until effective clinical dental research is established. While Dr. Ten Cate's proposals may create a few dentists whom he would consider worthy of university faculty appointments and prevent the amputation of dental schools from university locations, they will not necessarily alter the perception which dental students develop for their chosen profession.

It is debatable if professional schools, which are in reality job training centres, should be located in universities. However, when a provincial dental organization becomes actively involved in teaching students "the realities of the dental world", the balance has been tipped in favour of practical, predictable, vocational training. Students, at an early age, appreciate that dentistry is technique oriented. A fact which is emphasized by full page coloured trade advertisements which proudly proclaim "The bond between dentistry and technology has just been strengthened". Thus, the facade of elitism is shattered, and students develop a frustration regarding the intellectual basis of dentistry.

Until the dilemma between the preconceived idea of a university education and the reality of dental training is resolved, the "blues" awarded to dental schools will not be of a complimentary nature. Perhaps the art and science of dentistry would be better served if its students trained at a technical institute. Then, at least, they would be assured of receiving a "blue", to be as proudly displayed as the colour of their collars.

*J. Hardie, BDS, MSc, FRCD(C)
Chairman, Editorial Board*

News Update

The CDA's Taxation Committee was established by the Board of Governors at the Annual Meeting in September, 1977. The primary role of the Committee is to liaise with and to formally present submissions to federal government authorities in areas where taxation legislation or regulations are deemed to be unfair or unjust to the individual dentist.

Dr. Robert N. Hicks of Vancouver, British Columbia has been Chairman of the Taxation Committee since its formation in 1977. Under his Chairmanship the Committee has been instrumental in accomplishing tax benefits for the profession in the areas of Continuing Education Expenses, Tax-Assisted Pension Contributions for the Self-Employed and Professional Management Companies. An article follows on the latest efforts of the Committee in the areas of Sales Tax Exemption for dental materials and dental instruments.

CDA SUCCESSFUL IN HAVING SALES TAX REMOVED FROM SOME DENTAL MATERIALS

The Canadian Dental Association, through the efforts of its Taxation Committee, was successful in persuading Revenue Canada to remove the Federal sales tax on many dental materials, effective immediately.

The sales tax on some dental materials, dental instruments and x-ray equipment and supplies, was introduced in the May 1985 federal budget. The amendments to the Excise Tax Act proposed at that

time resulted in a 10 per cent sales tax being applied to many dental materials, as well as dental supplies and x-ray equipment. Effective January 1, 1986, the sales tax increased to 11 per cent on these same items.

Due to the representations made to both Revenue Canada and the Finance Department, by CDA's Taxation Committee, the sales tax on some dental materials has now been removed.

Dental Materials Exempt Under Section 19

Amalgam (and other metal) alloys

— caps

— pellets

— powder

Cavity liners

Cavity varnishes

Composition filling materials

Crowns — aluminum and plastic

Gutta Percha points

Mercury

Root canal fillers, sealers and cements

Silicate filling materials

Waxes — casting

— impression

— inlay/sticky/utility

Dental Materials Exempt

Depending upon their use, application or type (i.e. used in dental reconstructive procedures or in dental prosthetic procedures).

Calcium hydroxyde

Composite luting

Cyanoacrylate

Glass ionomer

Polycarboxylate

Silicate

Resin

Zinc oxide eugenol

Zinc oxyphosphate

Dental materials that will continue to have federal sales tax applied are as follows:

Acid gel or solution

Abrasive disks

Acrylic and other tray materials

Articulating papers and waxes

Dental Stones

Impression materials

Investment materials

Pit and fissure sealant

Points, antaneous paper

Retraction material — cords, packing material, etc.

Dental Materials Exempt under Section 5

Gold — dental casting

— dental alloy solder

— foil and wire

Surgical arch bars and wire ties

Acrylic resin material

Artificial teeth

Composition metals

Crown and bridge repair materials

Denture relining material

Porcelain material

Pins, Posts, Screws

Orthodontic material and appliances will remain taxable items.

The Taxation Committee, under the Chairmanship of Dr. Robert Hicks, is continuing to work to have the federal sales tax removed on dental instruments, and dental x-ray equipment and supplies.

ONTARIO BAN ON EXTRA BILLING BEING AIRED AT HEARINGS

Ontario's proposed legislation to ban extra billing is likely to become law by early summer.

The legislation will affect not only physicians, but also optometrists and about 500 dentists who are hospital dental personnel or who have occasion to perform dental procedures in a hospital in Ontario.

The proposed Bill 94, — "Health Care Accessibility Act 1985" — received second reading in the Ontario Legislature in February. At that time, a legislative committee was established to hold public meet-

ings and receive representations from those professionals affected.

The Legislature, now in recess, is expected to reconvene April 22. Although the committee hasn't been given a deadline to file a report, Ontario Premier David Peterson hopes to have it shortly after that date.

Nature of legislation

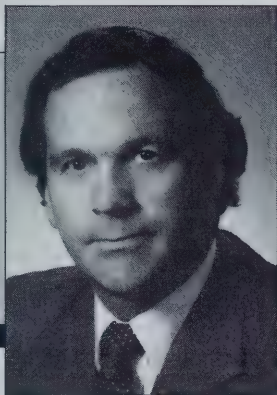
The Bill provides that physicians, dentists and optometrists who do not bill the Ontario Hospital Insurance Plan (OHIP) directly, may not charge more than the OHIP rate for rendering an insured service to an insured person.

Any health care professional in the above categories who contravenes this ban is

guilty of an offence and liable, on conviction, to a fine of not more than \$10,000. A judge who finds a person guilty, may also order that health care professional to pay back to the insured person any money received in excess of the OHIP rate. As an alternative, the insured person may sue the dentist, physician or optometrist, for that excess.

Agreement proviso

The Bill will also make it possible for the minister of health to enter into an agreement with associations representing dentists, physicians or optometrists, to provide methods of negotiating and determining the amounts payable under the provisions of OHIP.



PRESIDENT'S COLUMN

Dr. Brad Holmes

THE FIRST SIX MONTHS

Since taking-up the presidency of the CDA from Ralph Crawford on October 3rd, I have been, to say the least, very busy. Ralph's scars from removing "his" chain of office have now healed and we are well into my (brief or interminable, depending on the circumstances) year as president.

I am constantly amazed at how complex and convoluted dental matters have become. Nothing is simple anymore! There never seems to be a straight line approach as most solutions involve working through a maze to get to a nebulous goal. However, there is work to be done and our Association strives to do it with as little strife as possible.

Between October 3, 1985 and February 11, 1986 (when this article was written) I have attended on behalf of CDA some 24 meetings, symposia or other events. To be sure, it has been interesting, challenging and sometimes frustrating. I am always impressed with the people involved in organized dentistry working on behalf of the profession. This includes the many staff personnel from the various associations and groups affiliated with dentistry.

Although space doesn't permit comments on all, I would like to mention some of the activities that have been very interesting, enlightening and enjoyable during the first four months in office.

On October 17th, I attended the Provincial Dental Directors meeting in Quebec City. The directors have an opportunity to discuss, compare and improve their programs. Their dedication to the betterment of dental health in Canada is very evident by the tone of their meeting. I feel privileged in having attended this meeting two years in a row as it allows an opportunity for a greater insight into the problems facing our public health sector.

San Francisco was the setting for the American Dental Association convention in November '85 — what a fabulous city! — It attracted a record number of registrants — some 35,000! It was a real delight to watch John Bomba, the outgoing president, guide the multitude of events so capably. Dr. Abe Kobren of White Plains New York, succeeds Dr. Bomba as President of the ADA for 1986. The meeting also afforded us the opportunity of meeting Dr. Tom Ginley who is the new Executive Director of the ADA. Our thanks to Ms. Helen Cherrett of the ADA who so kindly helped us with many of the arrangements — some changed at the last minute. All in all our American friends were excellent hosts — we couldn't have felt more welcome.

On November 16-18 the CDA Executive Council held a planning session in Huntsville. I commented on this session in an earlier article but would like to reiterate the positive feelings that emerged from that meeting. It was a good opportunity for staff and elected officers to work together on equal terms to help develop a direction for the future of the CDA.

We have had two meetings with Mr. Dave Nicholson and Mr. Don Obowsawin of the Medical Services Branch of Health and Welfare Canada. We feel very strongly that these meetings have been positive and co-operative. We look forward to an ongoing relationship with this department.

Later in November Dr. John Robertson and I attended the ODA Board of Governors meeting. We were well hosted by our Ontario colleagues. For two days we listened to deliberations on many current dental topics such as manpower and alternate delivery systems. Most problems in dentistry are universal.

On October 18-19 the CDA hosted a Manpower conference in Toronto. I reported on this in an earlier article but wish to now report that the Professional Resource Utilization Committee, formed as a result of that symposium, has met and will be looking into the complex problem of manpower over the next year.

In the middle of January I attended the Manitoba Dental Association meeting in Winnipeg (Winnipeg is a suburb of Kenora). I always enjoy this meeting as I know so many of the participants, having attended the Winnipeg Dental Society and MDA meetings for many years. Dr. Ron House delivered a very interesting update on dental manpower at this meeting.

I have been asked frequently about our Dental Awareness Program as I travel the country. What can I do as an individual? All of us can become part of the program. Any dental professional with a worthwhile message is encouraged to participate — by volunteering as an active spokesperson for dental health in your area.

If you're interested in being a spokesperson, contact the CDA or your provincial association. We have created outlines for speeches and interviews on a variety of topics.

We realize that many dentists hesitate to accept speaking engagements because they are uncertain of the distinction between speaking on behalf of the profession and speaking to promote individual dentists or their practices. If you have any concerns about potential conflicts in this area, please consult with officials from your licensing authority.

Obviously it is inappropriate for dentists to promote their individual practices, but promoting dentistry as a whole and the underlying messages in our Dental Awareness Program can have an extremely positive impact both on the profession itself and the dental health of Canadians.

Do your part for awareness . . . let's make it work and keep dental health and our profession . . . Good For Life.



The late Dr. James P. Coupland

DR. JAMES P. COUPLAND, FORMER CDA PRESIDENT, PASSES IN OTTAWA

James Percival Coupland, DDS, FRCD(c), FACD, FICD, President of the Canadian Dental Association 1966-67, died at his Ottawa home in February. He was 77.

Dr. Coupland was born in St. Mary's, Ontario, in 1909, the son of a dentist, the late Percy Thayer Coupland. He attended schools in that community and then embarked on his own career in dentistry.

He was graduated from the University of Toronto in 1930, and began an oral surgery practice as an associate of his cousin, the late Dr. D.C.W. Coupland, in Ottawa, Ontario, the same year. For a number of years he had a solo practice until he was joined, about 1956 by Dr. Harold F. Biewald.

Dr. Coupland retired in 1980 and Dr. Biewald continues the practice, with associate Dr. Stephen P. Caples.

Very active with CDA

Always a strong supporter of the Canadian Dental Association, Dr. Coupland served as a member of the CDA Council on Legislation from 1948 to 1954 and as chairman in 1953-54. In 1959, he was chairman of the CDA Convention Committee and had, the same year, been named to the Board of Governors. He became a member of the Executive Council in 1961 and in 1966, became President of the CDA.

He had earlier served as President of the Eastern Ontario Dental Association and in 1965-66 was President of the Royal College of Dentists of Ontario.

Military service

Dr. Coupland became an instructor in the Royal Canadian Dental Corps, serving from 1943 to 1945. He rose to the rank of Major.

In 1964, he was again commissioned to serve the RCDC as a consultant in oral surgery.

He also received an appointment as consultant to the dental department of Ottawa's Civic Hospital.

Many honors

Dr. Coupland was awarded Fellowships in the Royal College of Dentists of Canada, the American College of Dentists, and the International College of Dentists.

He was a charter member of the Canadian Society of Oral Surgeons and a member of the American Society of Oral Surgeons.

His articles appeared in a number of dental journals, including Volume One, No. 1, of this publication.

He was a prominent participant, clinician and speaker at dental gatherings in Canada and internationally.

An outdoorsman

Dr. Coupland loved the outdoors and enjoyed boating, fishing and swimming. He was a member of a prominent Ottawa area golf club and fish and game club, and had served as president of a conservation group. For many years he was an active member of the Ottawa Ski Club.

He was a member of the Laurentian Club and the Civic Service Lodge No. 148 AF & AM Scottish Rite 32°.

Sons continue tradition

Dr. Coupland and his wife, the late former Jean Elizabeth Young had two sons; both of whom continued the family tradition in dentistry.

Douglas Coupland, DDS, MD, CM, practises medicine in North Vancouver and James Coupland, DDS, is a general practitioner in Almonte, Ontario.

PENNY WAITE

Much-respected figure in CDAA circles, dies in Saskatchewan

Penny Waite, a dynamic and persistent pioneer in the field of dental assisting, and one of the founders of the Canadian Dental Assistants' Association, died recently in Saskatoon.

Self-taught as a dental nurse, she gained her experience after she began working with her brother, Dr. Bill Waite, a Saskatoon dentist. Her career began in 1945, and ended with her retirement in 1975.

Worked for certification

Early in her career, she took up the cause of developing uniform training facilities for dental assistants and through her lobbying and determination, did much to achieve the national certification program for assistants.



Penny Waite

Her efforts resulted in assisting programs in community colleges and in 1967, the certification program became a reality.

It was noted at Canadian Dental Association headquarters that she became a familiar figure, lobbying for CDA support for her crusade. Also, she had attended every CDA national convention from 1945 to 1975.

She became the first vice-president of the fledgling Canadian Dental Nurses' and Assistants' Association in 1962, and in 1964, was named president.

At the 1964 Convention, held in Québec City, Miss Waite promoted the need for bilingualism in the CDAA.

Honors

Her outstanding service has been honored by the dental community in her home province and across Canada.

In 1976, the College of Dental Surgeons of Saskatchewan recognized her many years of service with a special presentation.

She was created a Honorary Life Member of the Canadian Dental Nurses' Association and of the Saskatchewan Dental Nurses' Association, and also received life memberships in the National and Saskatchewan Dental Assistants' Associations.

The Penny Waite Certification Trophy, a prestigious award, is given annually to an individual who has worked hard and effectively in the field of dental assisting education.

The official publication of the Saskatchewan Dental Assistants' Association is called "The Penny Waite Dental Assistant's Journal."

Talented musician

Miss Waite in her earlier years, excelled in music and had earned an ATCM degree. She taught piano in her community.

She was also keenly interested in elocution and was very talented in dramatics.

She served in the Soroptimist Association

with the same enthusiasm and held every office, including that of president. This led to her forming the "Venture Club", an organization for young business and professional girls.

For her constructive service led to a Life Membership in the Soroptimist Association a few years ago.

"She was a very special lady to the members of our profession," Elaine Wesley, C.D.A., Executive Director of the Canadian Dental Assistants' Association told this Journal.

Miss Waite was 71.

She is survived by two brothers, including Dr. W.T. Waite, with whom she worked as a dental nurse.

DR. ORVILLE HESCHUCK HEADS MANITOBA ASSOCIATION

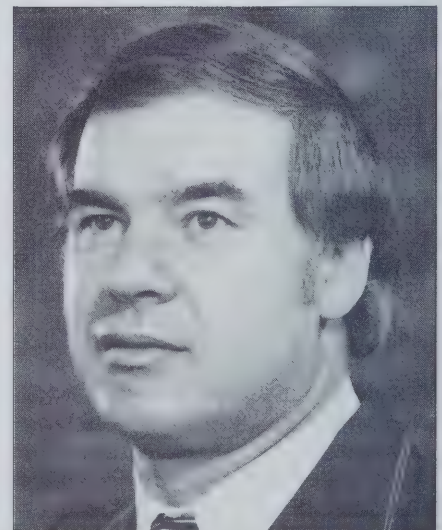
Dr. Orville Heschuk of Dauphin, Manitoba, was installed as President of the Manitoba Dental Association during the MDA's 102nd annual Meeting held in Winnipeg January 16-18.

Dr. Heschuk practises general dentistry in Dauphin, with his brother, Stephen. He moved to Dauphin after graduation from the Faculty of Dentistry, University of Manitoba, in 1962.

Had teaching career

Prior to his career in dentistry, Dr. Heschuk taught school in southern Manitoba. He became assistant principal of the Crystal City Collegiate and later, served as principal of Manitou Collegiate.

When he returned to university, he distinguished himself not only scholastically, but also as an athlete. He was president of the Athletic Directorate and winner of the Dr. Wray Youmans' Memorial Trophy as Athlete of the Year.



Dr. Orville Heschuk

Active in community

He is active in Dauphin's community activities. He has been a member of the local Lions Club, President of the Red Cross Society, President of the Northern Manitoba Dental Society, Treasurer of the Dauphin Kings executive, a board member of the Manitoba Dental Association and a board member of the Manitoba Health Services Commission.

Other board members

Other board members of the Association are: Dr. Ken Skinner, of Winnipeg, Vice-President; Dr. Les. Allen, Winnipeg, Past President; Dr. Gary Austman of Steinbach; Dr. Ernie Cohen and Dr. Marty Dveris, both of Winnipeg; Dr. Joe Stasiuk, of Portage la Prairie; Ms. Barb Pirt, of The Pas, Auxiliaries Representative, and Dr. Jack Purdie of Brandon, appointee, Minister of Health.

BUT I HAVE 20 YEARS BEFORE I RETIRE!

Peter B. Dennett

Director of Retirement Services, CDSPI

Good for you. If you have 20 years or less before retirement, you should start planning immediately.

Retirement planning does not simply mean buying a retirement savings plan. Such a move is a financial transaction only, and it is only one aspect of all the things to be considered when planning for your retirement.

Not so long ago, people did not have many choices. There were no Government pension plans, personal retirement plans, or RSP's. When people retired, they simply had to make do with what they had been able to save on their own over the years.

Things are much different today. We expect far more from retirement for the simple reason that we have more retirement options from which to choose. However, with more options the problem is understanding enough about those options to make the right decisions.

So where does retirement planning begin? It starts with you and your spouse. Sit down together and agree upon a future lifestyle. Since both partners are going to share in retirement life, it is important that you both make your plans together.

Deciding on a future lifestyle means making a number of pre-retirement decisions such as where you plan to live, what you plan to do with your time, at what age you want to retire, whether both spouses (if working) will retire at the same time, and whether you plan to work part time after retirement.

The two main items of concern are financial security and health. Health relates not

only to physical, but also mental health. Remember, you have been active in your practice for many years. When you retire, unless you know what you are going to do with the free time you have, you can literally go crazy — or at least drive your spouse crazy.

It is also important to have your household papers in order. Take into consideration birth certificates, marriage licence, wills, insurance policies, list of assets and liabilities, etc. If this approach is taken, the overall financial plan is much easier to put together.

You cannot get away from a sound financial plan that takes full advantage of the tax shelters, such as RSP's and Capital Gains that you are allowed. Again, lifestyle is so important so that you can plan to have sufficient financial security to enjoy the lifestyle that you and your spouse agree upon.

Don't forget to do some estate planning. We are so busy living our day-to-day lives and getting on with the present, that we forget to take into consideration the future. This is only human nature. We have a tendency to put off those things we do not want to think about, or feel can wait until a later date. But tomorrow never comes.

Estate planning is simply ensuring that all the things you have worked so hard for, and all the people you care about, are provided for at your death. It involves stating in your will how you want your possessions to be divided, and choosing an executor to carry out your wishes. Once you have made a will, put it in a safe place and review it frequently.

Every one of us have different plans or lifestyles we wish to live, so there is no one perfect retirement plan for everyone. Retirement is very much a personal choice, and is subject to different attitudes and goals.

CDSPI is introducing a new service for 1986 — "Retirement Counselling". Designed specifically for the dentist, the Retirement Counselling Service is made up of seminars that will be held from coast to coast, as well as the opportunity to take advantage of one-on-one retirement counselling. Watch for the notice announcing when the seminars will be held in your area.

SAN DIEGO DENTIST IS NAMED FDI'S PRESIDENT-ELECT

Dr. Carlton H. Williams of San Diego, California, who served as President of the American Dental Association in 1973-74, has been named President-elect of the Fédération Dentaire Internationale (FDI).

Dr. Williams, a graduate of the University of Southern California in 1937, had earlier rendered outstanding service in dental circles at local, county and state levels.

He became involved in the San Diego County Dental Society serving 13 years on



Dr. Carlton H. Williams

the Board of Directors, and as President in 1946. He went on to become President of the California Dental Association in 1959.

From 1958 to 1960, Dr. Williams was a member of the Board of Directors of the California Dental Service, a prepaid dental insurance company. He served as its president in 1960.

His executive talent was recognized by the American Dental Association in 1966, when he was named Speaker of the House of Delegates. During this period, he also found time to serve as Chairman of the Medical Institutions Commission of San Diego County, from 1948 to 1967.

FDI Assembly speaker

With the FDI, he was soon named a member of the governing council and in 1972, was elevated to the post as Speaker of the General Assembly. Dr. Williams had been speaker for nine years when he became President-elect last fall. He has been succeeded in that post by Dr. R. Cronstrom of Sweden.

He is a Fellow of the American College of Dentists, the International College of Dentists and the American Institute of Oral Biology. Dr. Williams is also the holder of the Distinguished Service Award of the American Dental Association, the highest award the ADA can give to a member.

Military service

Dr. Williams served with the military forces in 1953-54 as a Major in the U.S. Army Dental Corps.

Active in community affairs, he is a member of the Kiwanis Club and has been the local president. For 25 years, he was a member of the San Diego Chamber of Commerce Military Affairs Committee.

Interested in horsemanship, Dr. Williams is a charter member of a Southern California riding group and was a founding member of El Cajon Mounted Police in 1951.

by Cuspid

PUBLIC SPEAKING

North Americans' number one fear is not of death (whose probability of occurrence is 100%), nor of flying, or surgery, or visiting the dentist. It is the fear of public speaking.

As knowledge — particularly scientific knowledge — expands, experts are increasingly invited to expound. Dentists are no exception to this, nor indeed to the fear such invitations might induce . . . although I suppose one could argue that the inevitably unilateral nature of dentists' day-to-day communication might equip them more readily for didactic presentations delivered at a podium.

Quite apart from their potential dangers to an audience, especially a captive audience, public speakers themselves suffer in varying degrees from palpitations, dry mouth, wobbly knees, shaking hands, sweaty brow and Niagara armpits. Psychologically, the fear is of "drying up", and above all of looking foolish before one's fellow human beings.

A group of researchers reported in *Lancet* an experiment in which they hitched up electrocardiogram monitors to 30 people speaking in front of audiences . . . and recorded heart rates of up to 180 per minute. The researchers, who were perhaps relieved to present their findings in print rather than in person, noted that the intensity and nature of the individual speaker's reactions depend upon his personality, experience and health, the subject of the talk — and the audience.

The *Lancet* article showed the ECG reading for an "experienced and confident" speaker, a 27-year-old physician addressing a medical meeting.

At 5.23 p.m. his heart rate was 85; at 5.28 he began his speech and the rate shot up to 165; at 5.45 it was slower but still clipping along at 125. When he ended the talk at 5.55 his heart rate was back to 90, but it bounced back up to 110 at 6:00 when he was asked an "awkward question". The *Lancet* didn't say what that question was, but one hopes that after 32 minutes of stifled curiosity it might have been something like, "What are you doing will all those wires sticking out of your chest?"

The late Dr. Ralph Smedley, founder of Toastmasters' International urged prospective speakers to remember that

their audience is just a group of individuals . . . an audience of a hundred people is made up of individuals, any one of whom you can talk with individually. Talk to the group as one person. One of Smedley's successors, Maurice Forley, in his book *Public Speaking Without Pain*, reminds public speakers that they have, after all, been *invited* to speak and, if they know their material, know themselves, and know the audience, there is a reasonable chance that all will go well.

Those clear-eyed, firm-handshaking folk who run the Dale Carnegie courses earn *their* living by making those unaccustomed to public speaking less so . . . and they contend that the fear of public speaking often starts in school, where red-faced kids are stood up in front of giggling, taunting classmates and towering, disapproving teachers to present an oral report. They believe that since nobody can escape having butterflies in the stomach, the best they can hope to do is to get them to fly in formation. The Carnegie technique is to convene a group of adults each of whom is required to stand up and speak extemporaneously on a subject with which he is familiar. Some experts advise speakers to use detailed notes rather than a complex text. Not everyone would agree. William F. Buckley, Jr., one of our most accomplished orators and debaters, says in his book *Overdrive*: "My own feeling is that a proper speech should be polished, and to which end I tend to write mine out". Winston Churchill apparently had the best of both worlds — writing his speeches out completely, but telling them with all kinds of hesitancy and repetitions built in.

In his book *How To Speak, How To Listen*, Mortimer J. Adler names three factors — *ethos*, *pathos* and *logos*. *Ethos* consists in establishing the speaker's credibility and credentials; *pathos* consists in arousing the passions of the listeners, getting their emotions running in the direction of the action to be taken, and *logos* is the martialling of reasoning.

Perhaps, though, the kindest thing a speaker can do for his audience is to follow the old admonition to stand up; speak up and shut up. That way, at least, the fear and physical and psychological symptoms are short-lived — on both sides of the podium.

GENERAL PRACTICE
RESIDENCY

Dr. P. Stevenson-Moore

Graduating? Do the Doors
Open or Close?

Once again, dental graduating classes nationwide are about to join the profession as their years of formal education come to an end. Each graduate has acquired a unique experience during the previous four years of education and training. Too many will fail to recognize that this experience has been specific to the institution in which training occurred. They will not raise their heads high enough from the grindstone to which they have been forced for so long, and consequently will fail to gain any impression of the wider horizons which are open to a University graduate and particularly to one with a degree in dentistry. Most will opt immediately for practice although many will find their initial experience difficult and unsatisfying. The pressures of immediately paying off student loans must seem great, but can in many instances be deferred for a worthwhile project. Indeed, delaying the major effort to earn large sums of money may pay dividends later.

Indentured and now Interned?

A major opportunity that is too frequently missed by young graduates is an internship, known in many centres as the general practice residency program. Admission to such a program may enable the young practitioner to travel to another centre, where he will be exposed to alternative philosophies of dentistry. While enjoying a large measure of clinical independence, the intern is also able to benefit from the proximity of more experienced and specialized colleagues. Such an appointment allows an intern/resident to experiment with previously untried techniques, and to develop working speeds without any need to worry about overheads while so doing. For many interns, this is a welcome opportunity for reading, in areas of professional interest that could not be explored during the more formally structured school programs. There is also the stimulation of exercising initiative. Every program for a resident ends up being what the individual makes of it. The old rule, "you get out as much as you put in," continues to apply.

The Choice

Having gained a much broader experience in a general residency program, horizons may now be opening. Increased confidence obtained from independent clinical operation may result in an improved ability to develop a situation in practice. Inclinations toward a specialty may have become

defined; and in the process, a necessary prerequisite for specialty training has been completed. Close rapport with medical staff during residency will have opened additional channels of communication, that remain an asset during any form of clinical practice.

The Future

With so much to gain, perhaps greater numbers of graduating dentists will compete for the available positions, most of which provide a stipend in addition to furnishing varied facilities and experience. The trend towards more hospital based community dentistry is already well established. The need to provide dental care and support to various groups of short and long term hospital and institutionalized patients is growing. As a profession, we have a responsibility to ensure that trained, and experienced dentists are available to meet the need. General practice residency programs provide this training, thus equipping the dentist to meet this need, both now and in the future.

CDSPI — WORKING TOGETHER

CDSPI is growing again. We are expanding our services to meet your needs, with improvements to existing programs and new services soon to be announced.

CDSPI offers you expertise and careful attention to your needs in various areas.

The Canadian Dentists' Insurance Program now has 10 plans to protect your life, disability, office, and liability needs. Plans are constantly being updated and improved, and major enhancements were introduced in January.

The CDA RSP offers five investment options, with complete inter-Fund flexibility, to help you save for your retirement, while deferring income tax.

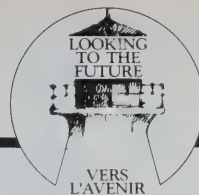
CDSPI's Retirement Services Department also offers an Annuity Information Service, providing information and quotations for people with maturing RSPs. 1986 will see the introduction of Retirement Counselling Seminars across Canada, providing information you'll need to make important decisions about your future.

CDSPI administers extended health care plans on behalf of some provincial dental associations.

Step by step, CDSPI is building a complete network of services for you. All of CDSPI's programs are developed and administered solely for the benefit of the dental profession. We're *your* service company, working to secure *your* practice and *your* future.

Remember, the expertise you need is waiting for you at CDSPI, where we're working for you.

**CDA CONVENTION
AUGUST 24/27
HALIFAX '86**



**CONGRÈS DE L'ADC
24-27 AOÛT
HALIFAX '86**

'QUALITY AND FUN' — CAPSULE ASSESSMENT OF HALIFAX '86

A world class scientific program and a social program which will offer many fun-filled hours, are assured by the Convention '86 program planning committee.

The only word of caution now being sounded by the committee is that hotel accommodation may soon be at a premium and unless delegates and spouses book early, there could be a major problem.

Scientific program

One of the major features of the Convention's scientific presentations, the Grieve Memorial Lecture, will be delivered by Dr. Frank Shamy, Past-President of the Canadian Association of Orthodontists. This presentation will be delivered on the opening day of the scientific program, Monday, August 25.

Dr. Norman Boucher of the University of Pennsylvania and Dr. Harvey Levitt, a private practitioner in orthodontics from Montréal, will conduct sessions on orthodontics and periodontics in the morning and

afternoon sessions. Dr. Phillip Malloy, an endodontics practitioner in Boston and Cape Cod, is the speaker at a Monday morning endodontics session and Dr. Michael Cohen, a professor in Dalhousie's Faculty of Dentistry, will conduct a presentation in paedodontics. Dr. Harold Slavkin, a dental faculty professor from the University of Southern California, will speak on dental research — future trends, in the afternoon.

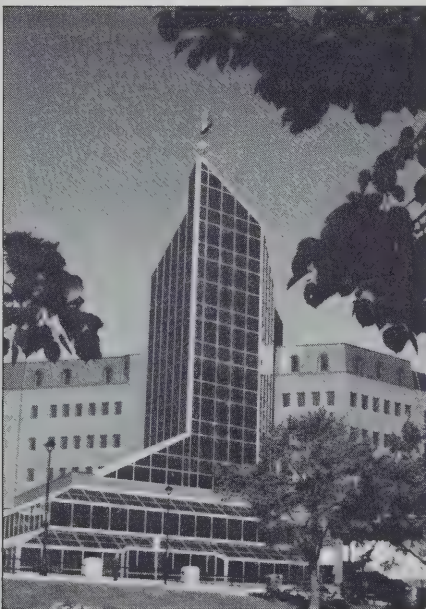
Dr. Trevor Chin Quee, Director of the Division of Periodontics, at McGill University, Montréal, will speak on the subject of pharmacotherapeutics, Monday afternoon and Mr. Bruce Moxley, head of Dalhousie dental school's Department of Instructional Resources will give a presentation on audio-visuals in dentistry.

On Tuesday, August 26, Dr. Jay Seibert, periodontics professor at the University of Pennsylvania, will conduct both morning and afternoon sessions in periodontics. Dr. David Garber, who conducts a private practice in periodontics and prosthodontics in Atlanta, Georgia, will also officiate in morning and afternoon presentations on periodontal prostheses. Dr. David Precious, Associate Professor in Oral Surgery, Dalhousie University, will make a morning presentation in the field of oral and maxillofacial surgery. Mr. Wilson Southam will conduct both morning and afternoon sessions on Practice Development. Dr. John Hardie, a member of the National Advisory Committee on AIDS and Chairman of CDA's Editorial Board, who will provide an update on AIDS and Hepatitis.

Other afternoon speakers on Tuesday will be Dr. Derek Jones, Professor, Dental Biomaterials at Dalhousie, who will make a presentation on that subject, and Drs. Robert Hoar and Robert Brydiger, who will conduct sessions in Maxillofacial Prosthetics. Both are dental faculty members at Dalhousie University.

Table clinics will also be featured on Tuesday afternoon.

On Wednesday morning, August 27, the concluding scientific program presentations will be by: Dr. Robert Chapman, head, removable prosthodontics, Department of Restorative Dentistry, Tufts University, Boston, Mass.; Dr. Derek Chisholm, Dean of the School of Dentistry, Dundee, Scotland, will speak on Oral Medicine — Pathology, and Mr. Lorne Rozovsky, a Halifax



Halifax's ultra modern World Trade & Convention Centre will be the scene of all major Convention '86 activities.

(Photos — courtesy of the Nova Scotia Department of Government Services and the World Trade & Convention Centre)

CANADIAN DENTAL ASSISTANTS' ASSOCIATION PROGRAM

Date	Time	Event	Speaker	Location
Sunday August 24	9 a.m.	Fun Run/Walk		
	Noon to 9 p.m.	Registration – Information		
	7 p.m. to 10 p.m.	Registration Party "A Nova Scotia Seafood Fair"		World Trade & Convention Centre
Monday August 25	7 a.m.	Aerobics/Running		
	7.30 a.m. to 6 p.m.	Registration – Information		
	8 a.m.	Opening Breakfast		
	9 a.m.	CDAA Annual Meeting		
	9 a.m. to 6 p.m.	Commercial Exhibition		Metro Centre in World Trade & Convention Centre
	10 a.m. to Noon	"Adventures of Bruce the Dental Moose" A Lecture/Demonstration	Bill Wood	
	Noon	CDAA President's Luncheon		
	2 p.m. to 5 p.m.	Workshop: Motivating Children in Good Nutrition and Dental Health	Bill Wood	
		Dental Hygiene Care for Patients with Special Needs	Peggy Larder	
		EVENING FREE		
Tuesday August 26	7 a.m.	Aerobics/Running		
	8 a.m. to 6 p.m.	Registration – Information		
	9 a.m. to 6 p.m.	Commercial Exhibition		Metro Centre in the World Trade & Convention Centre Citadel Inn
	9 a.m. to Noon	Dental Hygiene Care for Institutionalized Patients	Dr Ron Ettinger & Carol van Aernum	
	Noon	Luncheon and Fashion Show		
	2 p.m. to 5 p.m.	Eating Disorders	Marg Shackleton	
		Disease Activities and Entities, Current Perio. Concepts.	Dr. John Sterrett	Citadel Inn
		Back Problems Related to Dental Hygiene Practices	Mr. Bill Humphries	
	7 p.m.	Lobster Bash		Dartmouth Sportsplex
Wednesday August 27	7 a.m.	Aerobics/Running		
	8.30 a.m.	Registration – Information		
	9 a.m.	Breakfast and Halifax Harbor Tour		

All sessions and activities at Citadel Inn unless otherwise specified.

Access will be available to the CDA Scientific Program

The Commercial Exhibition in the World Trade & Convention Centre is open to all registered delegates

A Hospitality Suite will be open at the Citadel Inn for the enjoyment of all CDAA delegates.

lawyer and member of Dalhousie's Faculty of Law, who has written a textbook on dental-legal matters, will speak about Dental-Legal Implications.

Dr. Patrick Blahut, Assistant Professor, Department of Community Health and Preventive Dentistry, Baylor College of Dentistry, Dallas, Texas, will report on the 1985 health screening for dentists conducted at the CDA Ottawa Convention, and also speak on "The Health of the Canadian Dentist and Current Occupational Health Hazards". Convention Chairman, Dr. Ian Vogan of Halifax, will provide a dental manpower status report.

Social program

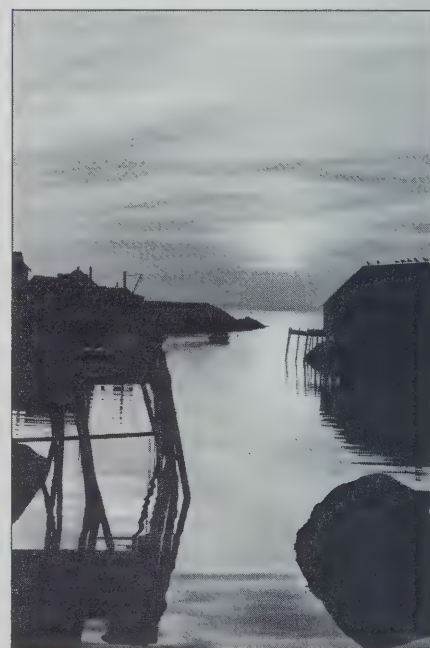
On Sunday, August 24, at 9 a.m., delegates may test their endurance in the CDHA Fun Run (or Walk).

In the evening, a registration party has been scheduled at the World Trade Centre, with a "Street Party" format. The emphasis, both in food and entertainment, will be on the Nova Scotia environment. This has been dubbed "Nova Scotia Seafood Fair".

Morning aerobics sessions and facilities for runners, will help delegates get the day started on the right foot.

A Monday, August 25 breakfast, will introduce the theme of the Convention. This will be open to all delegates and spouses. From noon to 2 p.m., delegates may have an informal lunch in the exhibit area of the World Trade & Convention Centre (Metro Centre).

The major social event, the "President's Gala Evening", being held in the Halifax



Delegates and families may enjoy Nova Scotia south shore tours to visit picturesque ports and fishing villages such as world-famous Peggy's Cove, seen above.



An Acadian country tour would include scenes such as Grande Pré (above) in Grande Pré National Historic Park — the Land of Evangeline.

Sheraton Hotel. This is a black tie affair, but the event, the organizers have promised, "will not be stuffy". Big Band music will be provided by Atlantic Canada's fastest-rising musical ensemble — the John Alphonse Big Band. Chamber music will add to the delegates' pleasure while dining.

On Tuesday, August 26 at 1 p.m., the President's Luncheon has been scheduled, in the World Trade & Convention Centre.

Lobster Bash

And what would a major event in Atlantic Canada be without a "lobster bash"? This

informal fun event, on Tuesday evening, will be held across the harbor, at the Sportsplex in Dartmouth. Other Nova Scotia hospitality will add to the warmth of the occasion. Dixieland music will instil a festive spirit and later, Terry Kelly, who has gained attention on national television, will soon rouse audience participation with his hand-clapping, toe-tapping music. Finnegan, billed as "Canada's Ambassadors of Good Cheer", will provide a generous sample of music and comedy to bring smiles and chuckles to all. Jim Flynn and Peter Stoney comprise this highly entertaining act.

Spouses' program

The organizing committee has provided a craft market and food fair, a luncheon and fashion show, a walk-about cooking demonstration and a wine tasting event from 11 a.m. to 2.30 p.m., on Monday, August 25. This will be followed, at 3 p.m., with a walking tour of historic downtown Halifax.

On Tuesday, August 26, tours will be available, of the Annapolis Valley, with a visit to a winery and lunch at a noted inn, or, along the South Shore of Nova Scotia, with lunch at a seaside restaurant.

On Wednesday, August 27, morning seminars have been arranged on the subjects of stress management and art appreciation. These have been scheduled from 9.30 to 11.30 a.m.

Childrens' program

An exciting, fun-filled supervised program has been organized for children aged 7 to 15, which includes: a spectacular sports day, a tour and lunch at historic Citadel Hill, a city tour on a double-decker bus, a magic show, films and much, much more.

CAN YOU IDENTIFY THIS PERSON?

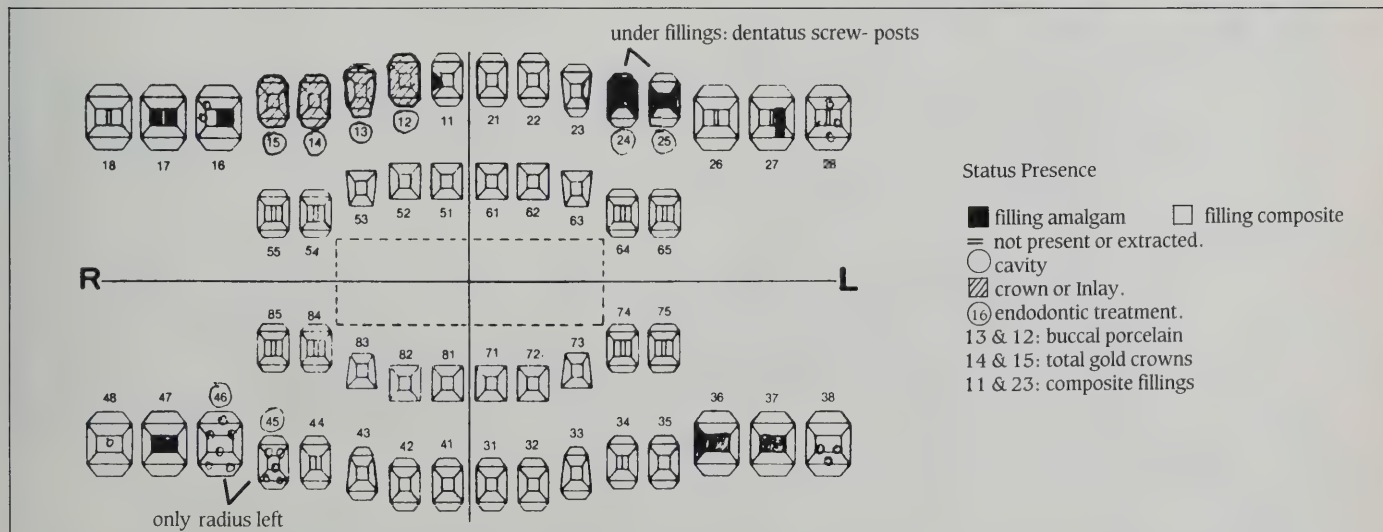
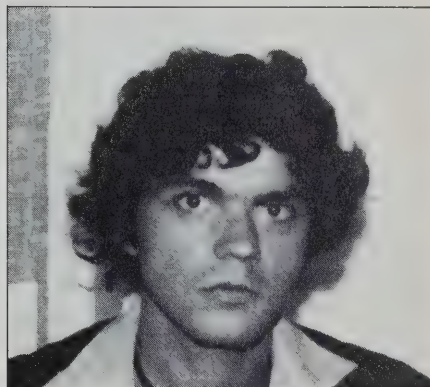
Interpol Ottawa recently contacted the Journal regarding identification of a person found in Amsterdam, Netherlands.

In February 1985, the police of Amsterdam arrested a male for vagrancy. The person, a mute, could not remember anything from his past. He later came up with the name of Bob or Gilles Hunter and the year 1955 as his year of birth. He believes he is a Canadian from Montreal.

Interpol told the Journal that the man writes in French and in some English, and

that all investigations so far have failed to identify him. It is believed, however, that his assumed identity was borrowed from a Canadian residing in Canada. A photo showing the unidentified person, and a copy of his dental chart are printed here.

If any of our readers can provide any information in regard to this man's real identity, contact the **Interpol National Central Bureau, Attn. Cpl. Guy Laflamme, 613-993-3232** or write: **Interpol Ottawa, 1200 Alta Vista Dr. Ottawa, Ontario, K1A 0R2. Quote Interpol File Number IP18/85IP3173.**



Looking To The Future

Canadian Dental
Hygienists' Association
National Convention

Halifax, Nova Scotia
August 24th-27th
1986

TENTATIVE SOCIAL AND SCIENTIFIC PROGRAMS

SOCIAL PROGRAM

Sunday, August 24

- am Fun Run
- pm Wine and Cheese Registration
Harbour Cruise (Complimentary to Early Registrants)
Welcome Party

Monday, August 25

- am Aerobics
Opening Breakfast with Guest Speaker From the True North Syndicate
- pm CDHA President's Luncheon
Candlelight Tour of the Citadel

Tuesday, August 26

- am Aerobics
- pm Lunch on Your Own
Lobster Bash

Wednesday, August 27

- am Aerobics
Brunch And Learn

SCIENTIFIC PROGRAM

Monday, August 25

- am "The Adventures Of Bruce The Dental Health Moose!"
A Lecture/Demonstration Dealing With Motivation Strategies - Bill Wood
- pm Motivating Children In The Areas Of Good Nutrition And Dental Health (Workshop)
- Bill Wood
Dental Hygiene Care For Patients With Special Needs - Peggy Larder

Tuesday, August 26

- am Dental Hygiene Care For Institutionalized Patients - Dr. Ron Ettinger and
Carol van Aernum
- pm Eating Disorders - Marg Shackleton
Disease Activities And Entities. Current Perio Concepts - Dr. John Sterrett
Back Problems Related to Dental Hygiene Practice - Bill Humphries

Wednesday, August 27

- am Stress And The Superwoman Syndrome - Dr. Leah Nomm

1986

CDA NATIONAL CONVENTION

AUGUST 24-27

HALIFAX, NOVA SCOTIA

REGISTRATION FORM

Name: Miss/Mrs/Ms _____
Dr/Mr _____ (please print for name tags)

Address: _____

City _____ Prov _____ Postal Code _____

Telephone No.: _____

Name of Spouse, if registered: _____

Name and Age of Children, if registered (see below)

Name _____ Date of Birth _____

CDA PRE-CONVENTION SOCIAL EVENT Totals
SATURDAY, AUGUST 23, 1986
Harbour Sail: Hosted by local area Dentist/Sailors
Limited registration
\$20.00 per person _____

CONVENTION REGISTRATION AUGUST 24-27, 1986

NOTE: Early registration will help in securing the hotel reservation of your choice. It can also mean savings in air fare, so make your plans early.

Please complete appropriate category

☐ **DENTIST:** General Practitioner _____
Specialist _____ (Specialty Group)

☐ CDA MEMBER/Foreign Dentist to June 15 after June 15
\$325.00 \$375.00 _____

☐ Non-Member \$375.00 \$425.00 _____

**Includes access to scientific sessions and exhibits, opening breakfast, two lunches, Sunday evening registration party and Tuesday evening Lobster Bash, daily exercise program - aerobics/running.*

☐ **DENTAL SPOUSE** \$140.00 (each) _____

**Includes access to scientific sessions and exhibits, Sunday evening registration party, Monday Fashion Show and Lunch, Tuesday Tour, and Tuesday evening Lobster Bash, Halifax walking tour, Wednesday morning Seminars, daily exercise program - aerobics/running seminars.*

Indicate Tour Preference: South Shore _____
Annapolis Valley _____

☐ **CHILDREN** \$60.00 (Each) _____

Ages 7-15 inclusive

Deadline Date: June 15 - Limited registration

Includes a sports day, Citadel tour and lunch, double decker bus tour of Halifax, magic show, films.

☐ **HYGIENIST** to June 15 after June 15

☐ Full registration _____

☐ CDHA Member \$125.00 \$150.00 _____

☐ Non-Member \$250.00 \$300.00 _____

**Includes access to scientific sessions and exhibits, daily aerobics, Sunday Harbour Cruise (pre-registrants only), Sunday registration party, Monday opening breakfast, Monday CDHA President's luncheon and Citadel Hill candlelight tour, Tuesday Lobster Bash, Wednesday brunch and learn.*

☐ **Daily Registration** to June 15 after June 15

☐ CDHA Member \$ 55.00 \$ 65.00 _____

☐ Non-Member \$110.00 \$130.00 _____

Day(s) required _____

**Includes that day's scientific sessions and exhibits only.*

☐ **CDHA SPOUSE/GUEST** \$60.00 _____

**Includes access to scientific sessions and exhibits, Sunday Harbour Cruise (pre-registration only), Sunday registration party, Monday CDHA luncheon and Monday evening "Candlelight Tour of the Citadel".*

☐ **DENTAL ASSISTANT/OFFICE PERSONNEL**

☐ Full Registration to June 15 after June 15

☐ CDAA Member \$125.00 \$145.00 _____

☐ Non-Member \$155.00 \$175.00 _____

**Includes access to scientific sessions and exhibits, daily aerobics, Sunday registration party, Monday President's Luncheon, Tuesday Fashion Show and Luncheon, Wednesday Breakfast and Harbour Tour.*

☐ **CDAA DAILY REGISTRATION**

☐ CDAA Member \$55.00 _____

☐ Non-Member \$65.00 _____

**Includes that day's scientific sessions and exhibits only.*

☐ **CDAA SPOUSE/GUEST** \$50.00 _____

**Includes access to exhibits, and Sunday evening registration party.*

☐ **STUDENTS**

- ☐ Dental
☐ Hygiene

Complimentary
Complimentary

**Includes scientific sessions and exhibits only.*

☐ **TECHNICIAN/OTHER**

to June 15 after June 15

Please specify _____

\$ 50.00 \$100.00 _____

**Includes scientific sessions and exhibits, and Sunday evening reception.*

Monday's Walk About Lunch	\$ 8.00 per person	_____
Tuesday President's Lunch	\$25.00 per person	_____
Tuesday Night's Lobster Bash	\$45.00 per person	_____
CDA Spouses' Fashion Show and Lunch	\$30.00 per person	_____
Valley Tour	\$35.00 per person	_____
South Shore Tour	\$35.00 per person	_____
CDHA Monday Candlelight Citadel Tour	\$10.00 per person	_____
CDHA Wednesday Brunch and Learn	\$20.00 per person	_____

TOTAL AMOUNT OF CHEQUE ENCLOSED: _____

**Not included in registration package*

ADDITIONAL SOCIAL TICKETS

Sunday Evening Registration Party	\$35.00 per person	_____
Monday Opening Breakfast	\$12.00 per person	_____
*Monday President's Ball	\$50.00 per person	_____

CANCELLATION POLICY: Cancellations are accepted in writing before July 15, 1986, for a full refund. Requests after that date are subject to a 25% administrative charge.

**Note: Please duplicate and complete this form if more than one registration is required.*

Make cheque payable to the CANADIAN DENTAL ASSOCIATION, and mail to:

1986 CDA Convention
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6



CANADIAN
CANCER
SOCIETY

SOCIÉTÉ
CANADIENNE
DU CANCER



Today I learned something new from an old friend.

You know, Thelma and I have been best friends since high school. Well, because Thelma is such a close friend, I thought I knew everything about her.

That is, until Thelma mentioned she'd just recently changed her will—to include a bequest for the Canadian Cancer Society.

Thelma said that even though she's always made annual donations to the Society, she wanted to do something extra. Because, she said, cancer can be beaten.

So then I thought, "Cancer *must* be beaten...and leaving a bequest is another good way I can help."

If you or your lawyer want to know more about the Society and what we do, telephone or write the Canadian Cancer Society.

This space contributed as a public service.

ADIDAS CDHA FUN RUN/WALK

Sunday, August 24/86

Registration Deadline Date: August 5, 1986

Entry Fee — \$8.00/Person
(Includes fun run T-shirt)

NAME (S) _____

ADDRESS _____

T-SHIRT SIZE:

☐ Small ☐ Medium ☐ Large

Send completed form and cheque payable to:

FUN RUN CO-ORDINATOR

P.O. Box 3593

Halifax South Postal Station

Halifax, Nova Scotia

B3J 2J0



CDA CONVENTION AUGUST 24-27 · HALIFAX '86

1986 CDA CONVENTION HOTEL RESERVATION FORM

IMPORTANT NOTES:

1. Hotel reservations will be confirmed upon receipt of your Convention Registration Form.
2. Room reservations will be held until 5:00 p.m. on day of arrival. To guarantee your reservation please fill in the required credit card information for Visa, Mastercard, and American Express. Cancellation notice must be given to the hotel at least 24 hours prior to date of arrival.
3. Deadline for Reservations: July 15, 1986.
4. Enquiries concerning accommodation or special requests should be directed to: Ms. Leslie Rich, Your Host Convention Service, P.O. Box 3594(S), Halifax, Nova Scotia, B3J 3J2, (902) 422-8336.

NAME:

(please print or type)

ADDRESS:

(Street)

(City)

(Prov.)

(Postal Code)

TELEPHONE NO.:

(Res:)

(Bus:)

Type of Room Required

☐ Single ☐ Double ☐ Twin ☐ Triple ☐ Other

Suites available upon request.

Arrival Date _____ Time _____ Departure Date _____

Name(s) of other occupant(s) if sharing _____

Indicate first **THREE** (3) Hotel Choices (Rates indicated single/double)

- | | |
|--|--|
| ☐ Halifax Sheraton (CDA Headquarters)
(\$95/\$105) | ☐ Citadel Inn (CDHA & CDAA Headquarters)
(\$75/\$85) |
| ☐ Prince George Hotel
(\$80/\$90) | ☐ Holiday Inn
(\$65/\$71) |
| ☐ Delta Barrington
(\$79/\$91) | ☐ Nova Scotian
(\$68/\$68) |
| ☐ Chateau Halifax
(\$75/\$85) | |

Reservation Guarantee:

Name of Credit Card

Number

Expiry Date

Please Check Appropriate Designation

- | | |
|---|---|
| ☐ Dentist | ☐ Specialist _____
(Please list speciality group) |
| ☐ Hygienist | ☐ Student |
| ☐ Assistant/Office Personnel | ☐ Technician |
| ☐ Other _____ | (Please specify) |

Please send reservation form to:

Ms. Leslie Rich
Your Host Convention Service
P.O. Box 3594(S)
Halifax, Nova Scotia
B3J 3J2

Canadian communities will continue to be supplied with hydrofluosilicic acid (HFS acid) in spite of the phasing out of CIL Inc's phosphate fertilizer production line.

HFS acid is added to community water supplies to prevent tooth decay. In this capacity it is more commonly known as "fluoride". The acid is a byproduct of the phosphate fertilizer production process, and was marketed by Stanchem, a business unit of CIL.

Stanchem will continue to provide Canadian municipalities with the HFS acid necessary to maintain fluoridated water supplies, even after the CIL phosphate fertilizer production is phased out June 30, 1986.

Stanchem will purchase supplies of HFS acid from manufacturers other than CIL, and is currently making arrangements to ensure that no interruption of supply occurs.

Dr. Fred Reid, the new chairman of the Canadian Fund for Dental Education (CFDE) recently announced that the Fund's income had increased by 6.7 per cent in 1985.

The Fund's income from all sources in 1985 reached \$300,500, with donations from individual dentists making up the bulk of that figure, for a total of \$91,000.

"We are deeply grateful for this demonstrated leadership by the profession," said Dr. Reid.

Contributions to the Fund from business and industry totalled \$75,800 while dental organizations contributed \$25,600. Gifts to the Living Memorial Fund totalled \$11,500, while endowment fund gifts made up over \$10,000 of the 1985 CFDE income. The rest of the 1985 total was made up by investment and sundry assets.

"(This support) enabled the Trustees to provide more badly needed assistance for dental education and research in 1985 than in any previous year," said Dr. Reid.

The International Association of Dentistry for Children is holding its eleventh Congress in Canada next year.

The Congress, will be held at the Harbour Castle Hilton Hotel in Toronto June 7-11, 1987. A program featuring both scientific and clinical speakers, will include guest lecturers, short papers, table clinics, video presentations and films. A full social pro-

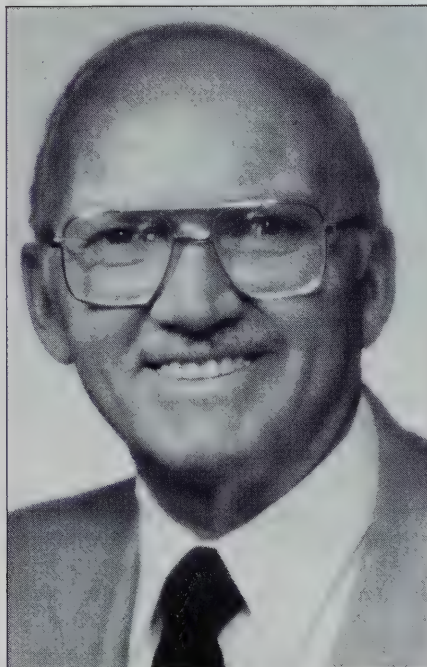
gram is also planned, including tours for spouses. If attendance warrants it, simultaneous translation in English, French, Japanese and Spanish will be available.

Presentations of all kinds, including papers, are welcome. For further information contact: Secretariat, 11th Congress IADC, Dept. of Pedodontics, Faculty of Dentistry, University of Toronto, 124 Edward St., Toronto, Ontario, Canada, M5G 1G6.

The Canadian Society of Forensic Science recently appointed a dentist to the Presidency for 1986.

Dr. George E. Burgman, of Niagara Falls, Ontario is the new Society President. A graduate of the University of Toronto, Faculty of Dentistry, Dr. Burgman is currently Odontologist to the Niagara Parks Police Department and the Niagara Regional Police Force. During his term as President, Dr. Burgman will perform as the CEO of the Society, preside at special, general and annual meetings of the Society.

He has practiced in Niagara Falls since graduation and is married with three children. Besides his interests in dentistry, Dr. Burgman is a private pilot.



Dr. Burgman



A bust of Dr. S.A. (Sandy) MacGregor was recently donated to the University of Toronto, Faculty of Dentistry, to honour Dr. MacGregor's contributions to the profession.

A pioneer in the area of children's dentistry, Dr. MacGregor was instrumental in introducing dentistry for children as an academic discipline. He was also a strong motivator in educating the medical and dental professions and the public in pediatric dentistry.

The bust, which was sculpted by Kay MacGregor, Dr. MacGregor's wife, was presented to the University of Toronto November 27, 1985, during the Winter Clinic presented annually by the Toronto Academy of Dentistry.

Keynote speaker at the event was Dr. Gordon Nikiforuk, who praised Dr. MacGregor's contributions to pediatric dentistry. One of the ways in which Dr. MacGregor helped further the discipline of pediatric dentistry was through his donation of the Pro Librus prize granted for excellence in the field of children's dentistry.

The photograph shows Dr. MacGregor expressing his appreciation to the University of Toronto. The bust which he donated is pictured in the background.

A familiar adage states "the more things change, the more they remain the same."

Nothing illustrates the truth of that statement more than the following excerpt:

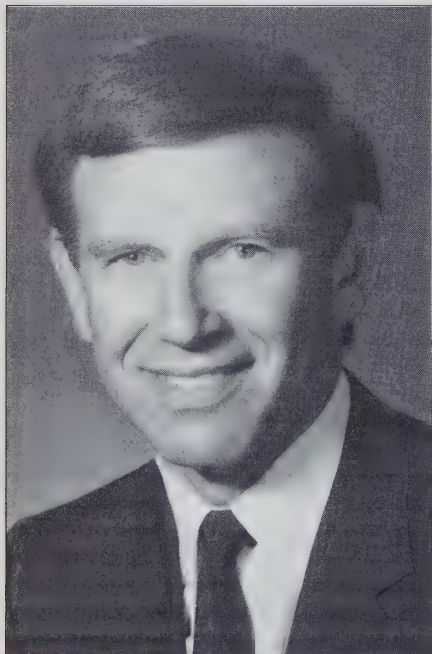
"The family physician is passing in the largest centres of population. The family dentist is in a fair way to follow. The tendency today is towards making all physicians public servants and not family physicians. Another reason for the change is the development of the specialists. Patients often rush from one specialist to another to their disadvantage. These very things are happening in dentistry. . . ."

Although this sounds like a very up-to-the-minute comment, it is actually a quote from an article published in the *Dominion Dental Journal*, in 1914!

The Canadian Association of Orthodontists recently elected their new executive officers for 1985-86.

The new President is Dr. Morley Bernstein, of Winnipeg, Manitoba. A graduate of the University of Toronto, Faculty of Dentistry, he received his DDS degree in 1961 and a diploma in Orthodontics in 1964. He is also past-President of the Winnipeg Dental Society, the Manitoba Society of Orthodontists and the Alpha Omega Fraternity.

President-elect of the Canadian Association of Orthodontists is Dr. Oleg Kopytov, of Montreal, Quebec. First and second Vice Presidents and Drs. Wayne Barro of Dartmouth, Nova Scotia and Richard Pass, of Burlington, Ontario, respectively. Immediate past-President is Dr. Ian Milne, of Ottawa, Ontario.



Dr. Morley Bernstein



Dr. Sandy Tambosso Chief of Dental Department presenting cheque to John Tegenfeldt Administrator of British Columbia Children's Hospital.

The Dental Department of the British Columbia Children's Hospital celebrated 55 years of hospital dentistry in late 1985.

In honour of the historic occasion, a reunion of alumni of the dental department was held and a book entitled "55 Years of Hospital Dentistry", written by Dr. W.G. Hastings, was printed in limited supply.

The book tells of the history of the dental department and of its members. Over the years, the dental department worked on staff and private patients in the clinic. Monies accrued for work on staff patients was put into a Heritage Fund. Recently, \$90,000 of that Fund was donated to the hospital's Intensive Care Unit for some new equipment.

The photograph shows Dr. Sandy Tambosso (L) presenting the cheque for the new equipment to John Tegenfeldt (R), Administrator of the British Columbia Children's Hospital.

The Hospital, which is designated as a teaching hospital, recently got its first full-time dentist as head of the dental department. Dr. Gary Derkson, who is also a professor at the University of British Columbia, is the new head of the department.

Membership in the Fédération Dentaire Internationale has risen to 83 regular and 14 affiliate member associations in 77 countries of the world.

The General Assembly of the FDI, at the Belgrade Congress, approved for regular membership the Bangladesh Dental Society, which represents 268 members. The International Association of Gerodontology and the International Academy of Periodontology were both admitted to affiliate membership in the FDI.

Toothpaste — the inside story!

It has been brought to our attention that toothpaste has qualities beyond the most obvious ones. A Reuters news report in a British newspaper reads as follows:

"Two American women swallowed toothpaste and drank rain water to stay alive for three weeks aboard an open boat in Indonesia's treacherous Sunda straits. . . The two 26-year-old Californians. . . were found in good condition apart from bad sunburn".

Presumably it calmed the biting pangs of hunger.

Dr. David Vassos of Edmonton, Alberta, recently received certified credentials in implant dentistry.

He successfully completed both comprehensive written and oral examinations, given by the American Academy of Implant Dentistry. An extensive review of implant cases completed by the applicant was also conducted. Out of the 2000 dentists in the U.S. and Canada who belong to the American Association of Implant Dentistry, only 123 have completed successfully the examinations for status as a member with these credentials.

The College of Dental Surgeons of British Columbia is completing a new display for Expo '86 in Vancouver, which will bring the message of dental awareness to visitors. "Dental Health: What do you know?" will be the title of the display.

The message will be geared to the middle and upper class adult because a public survey has shown that while 85 per cent of the respondents said that a person should go to the dentist at least once a year, only

54 per cent actually did so, a College spokesman noted. The remaining 46 per cent said that the chief reason they did not visit the dentist was that they simply "felt no need to go." Therefore, the objective of the display will be to make people aware of the need to visit their dentist regularly. The College also hopes to gather some statistics on dental needs in B.C.

The new display will be used along with two others currently being used around that province for Dental Health Month and other events.

Some unusual circumstances prevail regarding dental insurance in West Germany. The Wall Street Journal recently noted that dentists there will take a 4.5 per cent pay cut because that country's sickness insurance funding is being reduced. The insurance funding agencies were originally asking a 30 per cent reduction in 1986.

West Germany's spending on health services has tripled since 1980, and last year, reached the equivalent of \$80 billion (U.S.) The most rapidly growing segment of the health care costs has been dental care, the news report stated. Dentists' incomes are reported to average \$95,000 annually, a figure 30 per cent above that for physicians, and double the average for lawyers.

Analysts have blamed the increase in dental services costs to a 1974 court ruling that the insurance funds, which receive contributions from all West Germans, should henceforth pay for dentures, which had formerly been considered a luxury.

Sir Gordon Borrie, Britain's Director General of Fair Trading has put forth a recommendation that would allow dentists in the UK to advertise their services.

Sir Gordon's office advises the UK government on trading practices in the country and he observes that the present regulations of the General Dental Council "effectively prohibit advertising by dentists."

His recommendation to the Health Ministers and to the General Dental Council states that dentists should be allowed to advertise what treatment they provide and what their fees are for private treatment.

The recommendations were formulated after enquiries by the Office of Fair Trading into the availability of National Health Service Treatment and the cost of private treatment, after allegations by the Association for Dental Prostheses that dentists were abusing their monopoly position by restricting the availability of NHS dentures and making excess profits from the supply of private dentures.

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at	
	February 28, 1986	January 31, 1986
Fixed Income Fund	50.11781	49.36061
Common Stock Fund	106.76071	103.74609
Money Market Fund	32.89402	33.65239
Balanced Fund	20.68831	20.19849

Interest rates:

Guaranteed Fund Term	*Interest rates as at	
	February 28, 1986	January 31, 1986
1 yr	10.50%	9.60%
2 yr	10.60%	10.05%
3 yr	10.60%	10.10%
4 yr	10.60%	10.35%
5 yr	10.75%	10.40%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

February 28, 1986	January 31, 1986
\$52,910,936	\$50,958,381

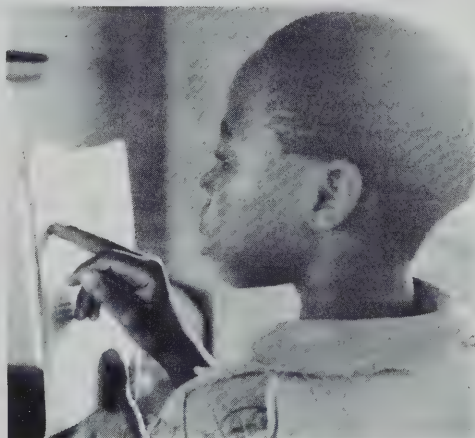
For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:

Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area 497-7117

ABC of development



*Books...
one key
to tomorrow
for today's
young.*



Please send contributions to:

USC Canada

Founded by
Dr. Lotta Hitschmanova, C.C.,
in 1945

Managing Director:
Raymond van der Buhs

To: **USC Canada** 56 Sparks
Ottawa, K1P 5B1

My contribution \$ _____ is enclosed.
(Postdated cheques welcome)

Mr. _____
Mrs. _____
Miss _____
Ms. _____
(Please print and indicate apt. no. and postal code)

Address: _____

Registration number 006 4758 09 10

DENTAL AWARENESS PROGRAM UPDATE

CDA Poll Hits Headlines Coast to Coast

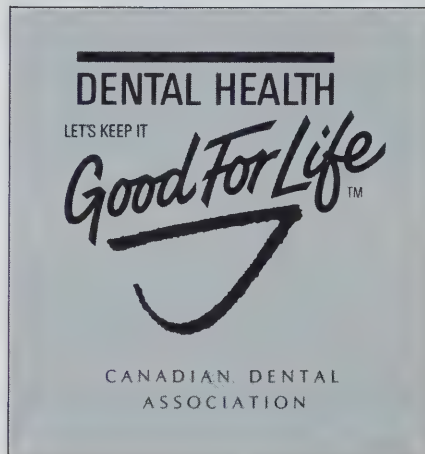
Last year the Dental Awareness Program commissioned a nationwide Gallup poll to study Canadians' dental health attitudes and behaviour. The December DAP Report presented the results to the profession. Then, in January, we released some of the Gallup poll highlights to the media. The release was picked up by both Canadian Press and the Thomson newspaper chain, giving us nationwide coverage — evidence of growing interest in the dental health issue.

The release featured figures from the poll determined to be of most interest to the public and contained extensive quotes from CDA president Dr. Brad Holmes. It pointed out that dental disease, the most common chronic health problem in Canada, is also one of the least understood.

Tim Hurson, who directs media relations for the Dental Awareness Program, says that this coverage is itself significant — and that it also demonstrates changing attitudes and awareness among journalists. "We're creating a community within the media whose receptivity to dental health is increasing substantially. Not only are they reporting the many and varied aspects of dental health, but they're now even asking us for additional story leads, background information, and resource people."

Oral B Makes a \$250,000 Commitment

Sponsorship just keeps on growing. Oral B has committed \$250,000 to sponsor a major new CDA adult dental health publication for release this spring. Add that to the 1986 sponsorship commitments of Colgate-Palmolive, Warner Lambert, Bootes, IDA and Guardian Drugstores, Health & Welfare Canada — and it makes \$600,000 of sponsorship for the Dental Awareness Program in the last 6 months. And there's more in the works. We'll discuss the sponsorship program in more detail in the May update.



Stinger Ad Campaign

The Dental Awareness Program has created a new public service advertising campaign. The campaign, specifically targeted to an adult audience, consists of nine different ads (see page 295). The ads are designed to increase the visibility of the Good For Life program, promote awareness, stimulate interest in the dental health issue and demonstrate its relevance to adult Canadians.

"When we analyzed the results of the Gallup Poll," says Eric Young, head of the creative team that developed the campaign, "we realized that there's a great deal that adults don't know about dental health. We also realized that the general attitude towards dental health is complacent. While adults may pay lip service to the importance of dental health, they just don't seem inclined to take it personally."

In fact, the lack of dental health knowledge was turned to advantage. The campaign is information-based. It discusses symptoms and consequences. "Because of the 'knowledge gap' in dental health, there is a strong element of surprise in the campaign. The facts we present are going to be news, surprising news, to a lot of people."

Precisely because of the surprise element, Young calls the ads "stingers". But the sting is one of surprise, not of alarm. The campaign does not depend on the fear

element to work effectively. "Rather, the creative strategy underlying the campaign was to combine serious information with a light-hearted, entertaining and attention-grabbing presentation style. We want to provoke interest and, at the same time, to present the dental health message in an entirely new light."

It's important to remember, however, that this is a public service campaign — not paid advertising. "The challenge in any ad campaign," says Young, "is getting your message and creative strategy right. But the added challenge of a public service campaign is getting free exposure. This was a key consideration in developing the ads. We feel that their combined information and entertainment value gives them added appeal in the competition for the limited space available."

The campaign is being distributed locally in the 1500 planning kits sent to Dental Health Month organizing committees. In addition, the Dental Awareness Program will be providing the ads to national magazines and to selected employee and professional publications.

Interesting Incidentals. . .

In the course of preparing articles for the Dental Awareness Program, we dig up interesting facts that will help make dental health more compelling to the public. We thought we'd include a few of them here; you might want to pass them along to your patients.

- 50 per cent of Canadians over 60 are completely toothless.
- A Psychology Today body image survey conducted a few years ago asked people what part of their bodies they would most like to change if they could. The surprising result: their smiles.
- Dentistry may not be the world's oldest profession, but it's been around for a while. The earliest known drilled tooth, found in a Neolithic skull in Denmark, dates from about 3,000 B.C. The earliest known filling is a bronze wire in a tooth belonging to a Nabatean warrior found in Israel's Negev Desert, dating from about 200 B.C.

Book Reviews

CLINICAL AND ORAL MICROBIOLOGY

Philip W. Ross
W. Peter Holbrook

*Blackwell Scientific Publications, 1984.
Boston, Mass. 170 pages*

This is a pleasant little soft cover book (170 pages), nicely arranged, with easy to read type, and with some good illustrations. As a textbook on microbiology however, which it purports to be, it is considered to be less than adequate.

The publisher's note on the rear cover stating "The authors provide a comprehensive account of the fundamental principles of micro-biology and their application to dentistry, emphasizing throughout the clinical relevance of each topic," and concluding with "This book will appeal to undergraduate and graduate dental students and to dental practitioners." . . . is an extremely amiable advertising blurb which should not be taken seriously by a potential purchaser.

The sins of this book are more the sins of omission rather than the sins of commission. Chapter 9, which deals with sterilization and infection, for example, makes no mention of unsaturated chemical vapour (chemiclave) as a sterilising modality, makes no distinction between acid and alkaline gluteraldehydes and equivocates regarding the use of quaternary ammonium compounds. There is no distinction made between high and low level chemical disinfectants generally nor is there any emphasis on the necessity to aim our infection control practices at specific diseases and often unidentified carriers. No mention at all is made of Acquired Immune Deficiency Syndrome (AIDS), an unforgivable omission for a text on microbiology published in 1984. The table of suggested infection control practices on page 51 is not considered adequate or acceptable in terms of current risks faced by the dental profession.

The presentation of the spectrum of infectious diseases by body systems rather than by specific organisms or groups of organisms is more suited to a book on oral and general medicine rather than a microbiology text which should focus on the microbe and its specific host-parasite interaction.

The detailed knowledge expected of the dental practitioner certainly requires more depth than the system presentation provides in this text.

On balance however, the reviewer found that Chapter 11 which covers treatment of infections and chemotherapy, was concise, well presented and quite complete; as was Chapter 12 on The Ecology of the Mouth. The other chapters suffered to a greater or lesser extent from simple lack of depth.

In conclusion, one could say that this is a simplified, readable overview of microbiology as related to dentistry suited especially to the level of knowledge expected of the Hygienist or Certified Dental Assistant. As such, it would be a recommended text for these auxiliaries. A textbook for dental students and practitioners it is not.

*This book was reviewed by
Walter H. Sussel, DDS,
A dental surgeon in Chilliwack, B.C.*

HAPPINESS AND FULFILLMENT IN DENTISTRY

Peter Glazebrook

*Quintessence Publishing Co. Ltd.
London, England
124 pgs.*

Why are so many dentists unhappy? That is the opening sentence in a 125-page paperback written by a dentist, Peter Glazebrook, and published by Quintessence Publishing Company Limited of London in Great Britain.

Dr. Glazebrook quotes a survey carried out in the United States that showed that about one third of the dentists questioned *would most probably* not choose dentistry if they could start their careers again, and a further one third of the dentists *would definitely* choose something else. This means that only one third of dentists were satisfied with their choice of career.

The author attempts to answer the question — why do so many dentists fail to find satisfaction in their work? He also intends to help dentists of all ages achieve fulfillment and satisfaction in their careers and in their lives by advocating a philosophy.

Dr. Glazebrook freely admits that he has been influenced by the philosophy of

Dr. L.C. Pankey and Dr. Loren Miller of the L.D. Pankey Institute for Advanced Dental Education. The first chapter entitled "The Pathway to Happiness", provides an overview of the author's outlook on life. In subsequent chapters he provides details under such headings as "Know Yourself", "Know your Patient", "Know your Work" and "Apply your Knowledge".

It is unusual for a dentist to take the time to sit and think about life in general, the practice of dentistry, one's family and how they can be combined to provide us with a happy and satisfying life. Perhaps more of us should do it.

The author states that work should be one of the most satisfying things in this life and that in dentistry we are lucky because we work in a profession that offers limitless opportunities to fill a lifetime with interest, and wonder and pleasure of achievement. Reading this book will not turn your life around, however, it may bend it a little.

In the final chapter of the book the author states that "You are the Captain, and your ship should go in the direction you want, even if you do have to weather a few storms on the way."

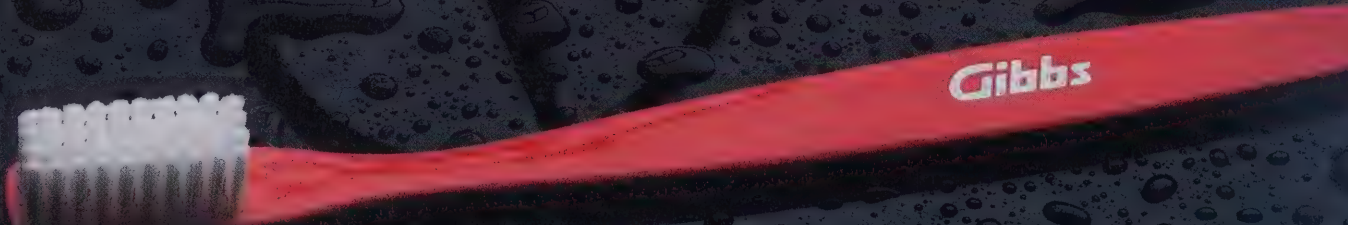
*This book was reviewed by
Dr. Kenneth F. Pownall,
Registrar, The Royal College
of Dentists of Ontario*

AN OUTLINE OF PERIODONTICS

J.D. Manson

*John Wright PSG Inc.
Littleton, Mass. 206 pgs.*

An Outline of Periodontics is a basic review text of periodontal disease with an emphasis on the plaque theory and the prevention and early diagnosis of periodontal disease. Included are concise reviews of the periodontal tissues, the oral environment and host-parasite interactions. The etiology and epidemiology of periodontal disease as well as diagnosis, prognosis and treatment are well described. The chapter on juvenile periodontitis could be expanded and there is no mention of tetracycline therapy which has been reported effective in treating this particular type of periodontal disease. Also some discussion of the Widman flap and more information on bone grafts would improve the chapters on sur-



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gery and management on bone defects, and more detail on the mechanisms of disease production would add to the text. In spite of these criticisms, the authors appear to have accomplished their objective: to provide a concise basic review text of periodontal disease suitable for undergraduate dental students, hygienists and any interested reader. The text should be useful as teaching material in the dental faculties particularly for the initial years.

*This book was reviewed by
Dr. D.W. Pettigrew
a periodontist in Edmonton, Alberta*

ORTHODONTICS Current Principles and Techniques

T.M. Graber and B.F. Swain

*The C.V. Mosby Co.
St. Louis, Toronto, Princeton 1985.
Price \$133.00
Pages 928*

The latest edition of this book follows the previous formula of a series of articles that present the state of the art in Orthodontics today. Each chapter has been written by researchers and clinicians who are acknowl-

edged experts in their field. T.M. Graber and B.F. Swain have acted as the editors.

The book is divided into 2 sections 1 - Diagnosis and Treatment Planning and 2 - Techniques and Treatment. Section 1 commences with a chapter on "Diagnosis and Treatment Planning" by W.R. Proffit and J.L. Ackerman. They stress the role of diagnosis as being fundamental to treatment, the need to establish the aetiology of a malocclusion and the adoption of a holistic approach towards treatment planning.

There follows a chapter on "Biomechanical principles and reactions" by K. Reitan which examines the histological reaction of the teeth and periodontium to the various types and magnitudes of orthodontic/orthopaedic force.

The third chapter "Application of bio-engineering to clinical orthodontics" by C.J. Burstone discusses the design and properties of arch-wires and brackets to deliver forces that will be most effective in moving teeth at an optimal rate with minimal iatrogenic effects on the dental tissues.

The fourth chapter by E.H. Williamson outlines his philosophy and treatment rationale for avoiding and correcting intra-capsular pathology and myofascial pain dysfunction syndrome.

Section 1 closes with a chapter by J.G.

Dale on The Guidance of Occlusion: serial extraction - its indications and contra-indications.

Section 2 opens with a chapter on Functional Appliances by T.M. Graber. The theories on how these appliances produce changes of jaw relationship and occlusion are discussed. Various functional appliances are described as well as the all important construction bite and its modification for differing situations.

P.W. Stockli and U.M. Teuscher describe their combined activator headgear orthopaedic technique and its advantages over conventional activator therapy.

Bonding in Orthodontics by B.U. Zachrisson is a comprehensive review of bonding, debonding, resin systems and types of bonded retainer.

There then follows 4 chapters by J.T. Lindquist, T.L. Root, R.H. Roth and W.J. Thompson respectively on the Edgewise Appliance and how each of the authors has modified the appliance to achieve his treatment objectives. It should be noted that W.J. Thompson's article describes the Edgewise Appliance combined with the Begg Technique.

R.L. Vanarsdall and David R. Musich discuss Adult Orthodontics and in particular they stress the important differences

between adolescent and adult case management.

D.R. Joondeph and R.A. Riedel conclude Section 2 by covering various aspects of retention and methods of minimising relapse. They discuss the perennial problem of the association between erupting third molars and post-treatment crowding. This chapter has great relevance considering current techniques that seek to expand arches and distalise molars.

I found this book generally easy to read and understand. It is well illustrated and follows a logical sequence. I particularly liked the differing viewpoints on several topics e.g. retention, bonding, and treatment philosophies plus the copious list of references that assist the reader to form his own opinions.

I have two minor criticisms. I would like to have seen a chapter on the relationship between the soft tissues, the tongue, airway patency, breathing patterns on orofacial development and malocclusion; and a second chapter by Robert M. Ricketts on "Bioprogressive Therapy". Notwithstanding this, anyone who is practising orthodontics would be well advised to obtain a copy.

*This book was reviewed by
Dr. A.S. Marko, an orthodontist
in Orleans, Ont.*

FLUORIDE IN PREVENTIVE DENTISTRY (Theory and clinical applications)

James R. Mellberg/Louis W. Ripa

*Quintessence Publishing Co. Inc. 1983
Chicago, Berlin, Rio de Janeiro and Tokyo
290 pages, 68 illustrations, \$78 U.S.*

Fluoride is so much at the centre of all preventive measures that dentists and all other professionals involved in the supply of dental services and in the planning and execution of dental health programs must have accurate and up to date information about it to better understand how it works as well as to make the most appropriate use according to the prevailing conditions. The book written by Mellberg and Ripa — the former is a career researcher and the latter a pedodontist — will render valuable services to those who need a source of information which is easy to reach and which offers an abundance of details useful especially to the clinician, the researcher and the graduate student. Four chapters are devoted to the biochemistry and the physiology of fluoride and its dynamics on the calcified tissues. Four chapters cover the clinical applications of fluoride as a nutritional trace element, a topical agent, a component of dentifrices

and other uses. The chapter on water fluoridation written by G.S. Leske constitutes an excellent presentation on the main aspects of this public health measure.

All along the pages of the book, the authors demonstrated their ability to bring into play a large multitude of facts without endangering the fluency of the writing and the sustained interest of the reader. A great deal of emphasis has been placed on the quality and actuality of histologic reproductions, the clarity and elegance of graphs, the numerous and informative tables particularly in the chapters on clinical subjects. The photographic pictures illustrating the various degrees of dental fluorosis are among the best ever shown. All chapters end with a substantial bibliography.

Practicing dentists will appreciate the refined analysis on dentifrice contents, the comments on the ingestion of fluoride compounds and the recommendations on the use of domestic preparations. This book will bring hours of enriching reading to those who will make it theirs and at the same time will become a practical source of information to answer daily needs.

*This book was reviewed by
Dr. Jean-Paul Lussier
Faculté de médecine dentaire
Département de santé buccale
Université de Montréal*

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- References: 1. LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983).
2. MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979).
3. ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976).
4. YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

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1. Anderson, P.E. *A profile of staffing patterns*. Dental Economics, v. 73, no. 1, January 1983, pp. 42-44.
2. Anderson, P.E. *Staff personalities: creating the perfect blend*. Dental Economics, v. 74, no. 7, July 1984, pp. 38-41 and 43-45.
3. Anderson, P.E. *Staff salaries increase, total employees decrease*. Dental Economics, v. 74, no. 1, January 1984, pp. 69-72 and 78.
4. Bonner, P. *Creating a positive, professional image: the importance of first impressions*. Dental Economics, v. 75, no. 3, March 1985, pp. 83-84 and 86-87.
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22. Smyth, E.A. *Internal Marketing: the first step to team success*. Dental Economics, v. 73, no. 4, April 1983, pp. 114-116 and 119-120.
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TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Murray, John J. and Rugg-Gunn, Andrew J. *Fluorides in Caries Prevention*. 2nd ed. Bristol: Wright. PSG, 1982. 263p. 1 copy.
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OBITUARIES/NÉCROLOGIES

BAXTER, W.W.: Dr. Baxter was a graduate of the Royal College of Dental Surgeons in Toronto in 1923. Born in 1901, he was a Life Member of the Canadian Dental Association. He was a resident of Burlington, Ontario, at the time of his death.

BOYLE, E.R.: Born in 1900, Dr. Boyle was a graduate of the Royal College of Dental Surgeons in Toronto in 1922. He was a resident of St. Catharines, Ontario, at the time of his death.

BOURNE, M.E.: A Life member of the Canadian Dental Association, Dr. Bourne was a graduate of McGill University in 1947. He was born in 1918 and was a resident of Montreal, Quebec, at the time of his death.

CHARTRAND, P.: Né en 1937 et diplômé de l'Université de Montréal en 1962, le D^r Chartrand habitait à Laval, Québec, au moment de son décès.

CLARK, J.B.: Born in 1898, Dr. Clark was a Life Member of the Canadian Dental Association. He graduated from the Royal College of Dental Surgeons in Toronto in 1922. He was a resident of Aylmer, Ontario, at the time of his death.

CUNNINGHAM, J.E.: Practicing in Ottawa, Ontario, at the time of his death, Dr. Cunningham was a graduate of the University of Toronto in 1952.

DESROSIER, A.A.: Né en 1901 et diplômé de l'Université de Montréal en 1927, le D^r Desrosiers habitait à Beauport (Québec) au moment de son décès.

DUCHARME, R.: Né en 1922 et diplômé de l'Université de Montréal en 1951, le D^r Ducharme demeurait à Repentigny, Québec, au moment de son décès.

DUESLING, C.J.: A graduate of the University of Toronto in 1953, Dr. Duesling was a resident of Renfrew, Ontario, at the time of his death. He was born in 1921.

FRASER, D.C.: A graduate of the University of Toronto in 1942, Dr. Fraser was born in 1916. He was a resident of Toronto at the time of his death.

IRISH, P.J.: A resident in Scarborough, Ontario, at the time of his death, Dr. Irish was a graduate of the University of Toronto in 1952. He was born in 1921.

KRUGER, I.: Born in 1908, Dr. Kruger was a graduate of McGill University in 1932. He was a resident of Montreal, Quebec, at the time of his death.

L'ARCHEVÊQUE, J.: Né en 1913, le D^r L'Archevêque a obtenu son diplôme à l'Université de Montréal en 1939. Il habitait à Ste-Foy au moment de son décès.

L'ARCHEVÊQUE, J.A.: Né en 1984 et diplômé de l'Université de Montréal en 1917, le D^r L'Archevêque habitait à Montréal au moment où il est décédé.

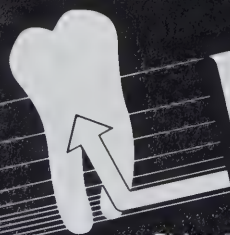
LAFONTAINE, M.: Né en 1901 et diplômé de l'Université de Montréal en 1925, le D^r Lafontaine habitait à Drummondville (Québec) au moment de son décès. Il était membre permanent de l'Association dentaire canadienne.

MACFARLANE, D.M.: A Life Member of the Canadian Dental Association, Dr. MacFarlane was born in 1909 and graduated from the University of Toronto in 1933. He was a resident of Edmonton, Alberta, at the time of his death.

MACKAY, G.I.: A graduate of McGill University in 1957, Dr. MacKay was born in 1931. He was a resident of Ste-Foy, Québec, at the time of his death.

SKINNER, L.: A graduate of the University of Toronto in 1929, Dr. Skinner practiced dentistry for 40 years in Saskatoon, Saskatchewan. He was a resident of Tsawassen, British Columbia, at the time of his death.

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INDIVIDUAL BELIEFS AND EXPECTATIONS IN DENTAL HEALTH PRACTISES

A.S. Gray, DDS, FRCD(C)
D.M. Gunther, RDH, BScD
Victoria, British Columbia

ABSTRACT

Questions were asked of student teachers in their final year of university training which were intended to reflect their beliefs, behaviors, values, and expectations in respect to their dental health. The answers indicate that many of our commonly held cultural dental values are myths. Among the most prevalent of these are: that the majority of people are not susceptible to periodontal disease, and it is not a serious threat to one's dental health; that caries is a more serious threat to the dental health of adults than periodontal disease; that the use of dental floss for good personal oral hygiene is unnecessary; that bleeding gums are a normal condition; that loss of teeth is a normal result of the aging process; and that having to wear dentures poses no real handicap and can be considered normal.

A rededication of dentists and hygienists in private dental practise, and of all those involved in dental public health programs, is indicated to produce more positive dental cultural values in Canadians.

SOMMAIRE

À des étudiants qui terminaient leurs études pour devenir professeurs, on a soumis un questionnaire afin de connaître les opinions et les habitudes qu'ils ont touchant la santé dentaire ainsi que l'importance qu'ils y attachent. Leurs réponses ont révélé qu'ils entretiennent plusieurs idées fausses dont voici les plus communes: la majorité des gens sont prédisposés aux maladies parodontaires, et celles-ci ne constituent pas une menace

sérieuse pour la santé dentaire; les caries sont plus nuisibles pour les dents des adultes que les maladies parodontaires; l'utilisation de la soie dentaire à des fins d'hygiène personnelle n'est pas nécessaire; il est normal que les gencives saignent; il est normal de perdre ses dents en vieillissant; porter des prothèses ne constitue pas vraiment un handicap et peut être considéré comme une chose normale.

Pour changer ces idées et amener les Canadiens à apprécier davantage la santé dentaire, on est d'avis que dentistes et hygiénistes en exercice privé, de même que toute personne participant à des programmes publics d'hygiène dentaire, doivent déployer plus d'efforts que maintenant.

The British Columbia Children's Dental Health Survey 1980 has demonstrated a dramatic reduction in DMF rates in children of the province over the past 20 years.¹ This improvement appears to be accelerating from a review of the Division of Dental Health Services Annual Reports over the last five years.² It is assumed that the reasons for this improvement centre around the availability of dental manpower practising preventive dentistry, and effective school dental health services promoting behavioral skills, self-applied fluorides and group dynamics between students, parents, teachers and dentists.

Over the years, Dental Division staff have suspected that although school children seem to possess the basic knowledge of preventive dentistry, they do not have a positive set of specific expectations about

keeping their own teeth for a lifetime. Children may receive negative expectations from lay persons, at home and school, about loss of teeth being associated with aging. Since classroom teachers are a vital force in providing on-going positive reinforcement to school health programs, it was decided to ascertain what expectations and beliefs teachers had about their own dental health. Consequently, a graduating class of teachers from a provincial university were surveyed as examples of well-educated, knowledgeable adults with special opportunities to influence children. The ages of this group ranged between 20 and 40 years, and were 106 in number.

The authors developed their own version of the Health Belief Model based on the work done by Rosenstock and Brooks et al.^{3,4} It is referred to as the Dental Health Expectations Model. Basically, it deals with the same concepts of relating an individual's dental health behavior to the perceived susceptibility, seriousness and preventability of dental diseases. Questions were also developed about the individual's expectations concerning future dental health. Additional questions were formulated on self-reported preventive dental practises. Answers to all but seven of the 28 questions were selected from a five point gradient. Self-reported practises were grouped by selected frequencies. The open ended questions were designed to elicit feelings and suggestions which might be useful in building more positive expectations, beliefs and behaviors in the populace.

The questionnaire had been pre-tested for comprehension, clarity and accuracy

among children in Grades 5-7. Prospective teachers at university level easily and quickly completed the questionnaire. All questionnaires remained anonymous and were completed prior to receiving any dental health information.

RESULTS

Findings from 106 graduating student teachers were tabulated on a computer. Some of the more significant results are as follows:

A. Perceived Susceptibility (from Table I)

While 52 per cent of the graduating student teachers felt that they might suffer from

dental caries over the next two years, a large majority, 83.9 per cent, were sure that they would not acquire periodontal disease. In other words, they did not perceive that they were more susceptible to gum disease than to the caries process. An even larger majority, 86.7 per cent, believed that they would not have a tooth extracted in the next five years. This would indicate that they do not know that periodontal disease causes most of the tooth loss in their age group.

B. Perceived Seriousness (from Table II)

Only 9.4 per cent saw wearing dentures as a serious handicap, and 43.4 per cent claimed that wearing dentures was not

really a problem. Cavities were viewed as a serious condition by 71.7 per cent. Malposed teeth were seen as a serious condition by 66.0 per cent. In contrast, only 28.3 per cent viewed bleeding gums as a serious condition while another 28.3 per cent saw this symptom as a normal occurrence and not serious at all. Regular dental visits were viewed as positive, helpful and necessary by 90.5 per cent.

C. Perceived Prevention (from Table III)

Almost all the group, 94.3 per cent, felt it was likely or very likely that they could prevent cavities in their own mouths. Slightly less, 88.6 per cent, felt they could do the same for gum disease. Their beliefs about prevention are significant but do not correspond well with their expectations and behaviors.

D. Self-Reported Behaviors (from Table IV)

This group made good use of dental services for 68.9 per cent stated that they had attended their dentist less than a year ago and only 9.4 per cent reported their last dental visit as more than two years ago. A telephone call from their dentist triggers a dental appointment for 34.9 per cent of the group. Financial concerns influence dental visits for 19.8 per cent. Toothbrushing frequency on at least a daily basis was reported by 98.4 per cent with virtually 100 per cent of the group reporting they used a fluoride toothpaste. Only 41.5 per cent reported the use of floss on a daily basis, with 37.7 per cent reporting the use of floss once a week and 20.8 per cent reporting that they never used dental floss.

E. General Responses to Open Ended Questions

When asked what would make school children take better care of their teeth, the most common answer (29.3 per cent) was "live" examples showing both good and bad dental health. A further 25.7 per cent suggested good school dental health education programs; 16.0 per cent had no answer, while 7.6 per cent suggested programs that would produce better motivation were needed. When queried as to the sources of learning about their own teeth, 34.9 per cent reported most information came from parents, 32.1 per cent reported most information came from dental offices and the remainder reported it came from school programs. Prevention and flossing were the topics that this group would most like to know more about, (17.9 per cent and 10.4 per cent respectively). A further 5.7 per cent wanted to know more about recognizing early signs of dental "trouble" and 4.7 per cent wished to know more about gum disease.

TABLE I

Perceived Susceptibility (in percent)

Disease or Condition	Very Likely or Likely	Don't Know	Very Unlikely or Unlikely	No Answer
Wearing Dentures	15.1	15.1	68.9	0.9
Dental Decay	31.2	16.9	51.9	0.0
Gum Disease	15.1	0.0	83.9	0.9
Tooth Extractions	4.7	8.5	86.8	0.0

TABLE II

Perceived Seriousness (in percent)

Disease or Condition	Serious	Slight Threat or Handicap	Normal or Satisfactory	No Answer
Wearing Dentures	9.4	45.3	43.4	1.9
Dental Decay	71.7	26.4	0.0	0.0
Bleeding Gums	28.3	38.7	28.3	4.7
"Crooked" Teeth	66.0	15.1	18.8	0.0

TABLE III

Perceived Preventability (in percent)

Diseases	Very Likely or Likely	Don't Know	Very Unlikely or Unlikely	No Answer
Dental Decay	94.3	3.8	1.9	0.0
Gum Disease	88.6	11.3	0.0	0.0

TABLE IV

Frequency of Self-Reported Practises (in percent)

Behavior	Once a Day	After Meals	Once a Week	Never	No Answer
Brushing	22.6	76.4	0.0	0.0	0.9
Flossing	40.6	.9	37.7	20.8	0.0
Eating Sweets	Once a Day 47.2	Throughout Day 15.1	Only on Special Occasions 37.7		
Last Dental Visit	Less Than 1 Year 68.9	Between 1-2 Years 20.7	More Than 2 Years 9.4	Never 0.0	No Answer .9

Of those people who reported it was likely or very likely that they would wear dentures at age 65, 31.3 per cent felt that way because other family members do already, 43.8 per cent because they already had dental disease in their mouths and a further 12.5 per cent because they think they have a poor diet. Of the responders who did not think it was likely or very likely they would wear dentures, 59.2 per cent felt this way because they always look after their teeth, and 32.4 per cent because they feel their teeth are in good shape.

CONCLUSIONS

The answers from this small select group of well-educated people were probably biased on the positive side of dental health because many would know or suspect which answer was expected. At the same time, they do not appear to be fully aware that they, themselves, are in control of their disease prevention behavior. Although they may be aware of some aspects of preventive dentistry, they often have not incorporated all of the necessary preventive skills as part of their lifestyle.

Caries is seen as a serious disease of threatening proportions. Periodontal disease is not recognized as the dental disease that causes most of the tooth loss in adults.

Dentures appear to be viewed by many as the normal replacement for natural teeth which were extracted as a result of the aging process. Dentures are not viewed as a handicap.

Daily toothbrushing with a fluoride toothpaste appears to have become a "socialized" custom, however, the use of dental floss has not. Regular dental visits also seem to be part of their routine; however, a few mentioned the financial costs as a problem.

This group does not feel it is susceptible to periodontal disease, and although all have been to the dentist, their understanding of the need for periodontal health is completely overshadowed by their concern of the caries process. Too many of this group accept bleeding gums as a normal condition, and not a symptom of disease. Dental patients are not being convinced by the dental profession of the need for a very high standard of personal oral cleanliness.

It was surprising to see such a large proportion of educated adults report that their views about dental health came from their parents, and not from their dental care providers. They also suggested that to improve the dental health of children, better motivation must be provided. It would appear that dentists, hygienists and dental public health personnel have much left to do in the preventive field, particularly in

convincing people of the appropriate values, beliefs, behaviors and expectations to hold in conjunction with dental health. The dental profession should rededicate itself to produce more healthy cultural dental values in Canadian society.

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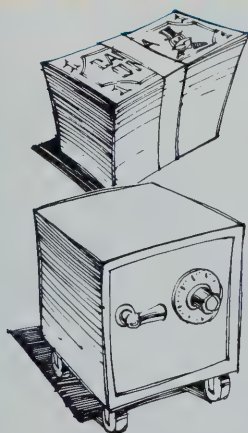
Reprints requests to Dr. A.S. Gray.

The authors would like to give special thanks to Mrs. S.R. Jonasson for her involvement in this project.

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Specialty Features

REPORT ON THE COMMITTEE ON SALARIED DENTISTS

Dr. James N. Wright, Chairman, CDA Committee on Salaried Dentists

The majority of dentists in Canada are self-employed and consequently form the majority of the membership of the Canadian Dental Association. Because of this situation, concern was expressed that inadequate attention was being paid by the CDA to the needs, aspirations, and concerns of salaried dentists in Canada. In May 1982 an Ad Hoc committee was formed to examine the situation and make recommendations to the Executive Council of the CDA on the preferred mechanism needed to

ensure the concerns of salaried dentists were addressed by the CDA.

The recommendation of the Ad Hoc Committee was that a standing committee of the Executive Council should be formed. It was further recommended that this committee be called the Committee on Salaried Dentists and consist of the following members: one representative of any two provincial salaried dentists' associations; one representative of the Association of Canadian Faculties of Dentistry; one representative of federal salaried dentists and one self-employed private dental practitioner — preferably

a current member of the CDA Board of Governors but not from one of the provinces already represented by a salaried dentist association. (Subsequently, provincial representation was raised to three.) The recommended responsibilities of the Committee were: to provide a forum for discussion of common interests and concerns of salaried dentists in Canada; to review and report on items referred to the Committee by the Executive Council and; to report to the Executive Council on the Committee's activities and recommendations.

Salaried dentists are considered to be

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"those dentists who are employed by Municipal, Provincial, or Federal agencies (including universities and colleges) to the extent that at least 80 per cent of their time is devoted to a salaried position".

Since 1983 the Standing Committee has been in place and has addressed a number of concerns. As a result of the committee's action, greater emphasis has been placed on articles in the Journal for salaried dentists, e.g. a letter from the President, in August 1984 and an article entitled "Tax Planning for the Salaried Dentist" which was published in the December 1985 issue. A policy statement on the requirement for continuing education by dentists was passed by the Board of Governors in 1985. The statement was deemed to be of benefit to salaried dentists for use in employment contract negotiations. A data bank has been created at CDA Headquarters for: salary scales of salaried dentists in Canada; fringe benefits of salaried dentists; continuing education benefits; and, current provincial regulations on portability of licences.

Major submissions, at considerable expense to the CDA, have been made to the Minister of Finance in an attempt to gain

income tax benefits for salaried dentists for continuing education expenses. Unfortunately, to date, these efforts have not been successful, however, they are continuing. Another major submission by the CDA undoubtedly had some effect in persuading the government to increase allowable deductions for Retirement Savings Plans for both self-employed and Salaried Dentists.

As a result of discussions between the CDA and CDSPI, policy changes were made in the Malpractice Contract to ensure that salaried dentists who move into non-clinical positions are covered for malpractice situations which occurred while the individual was in clinical practice. The coverage is for a period of five years after ceasing clinical practice and is without the requirement for further payment of premiums.

The subject of a reduced CDA membership fee for salaried dentists has also been considered. This proposal, however, was not supported for the following reasons. The reduced CDA Membership fees could not be administered to all provincial dental associations in an equitable manner, since dentists in Ontario and Quebec have voluntary membership in the CDA, whereas dentists of all other provinces have automatic, man-

datory CDA membership included in their provincial license fees. The CDA does not wish to demonstrate anything less than equal treatment for all members. The major consideration, however, was that in the opinion of the Committee and the Executive Council, the Canadian Dental Association must concern itself equally with the welfare of all members and that salaried dentists undoubtedly feel an obligation to their professional association equal to that of self-employed dentists. The mandate of the Canadian Dental Association in this regard is to provide high quality service and representation to all Canadian dentists.

In conclusion, all Canadian salaried dentists should be aware that the CDA has their interests in mind and that a Standing Committee on Salaried Dentists has existed since 1983 to respond to their needs. This direct avenue to all CDA resources is open to all salaried dentists — if you have a concern, make it known.

Current members of the committee are: Dean A. Schwartz (ACFD); Dr. H.L. Goldberg (Saskatchewan); Dr. C. Tessier (Quebec); Dr. N. Farrell (Ontario); Dr. R.A. Turcotte (New Brunswick); and BGen J.N. Wright (Federal Services).

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**neutral pH, 0.22 mg/mL of sodium fluoride (100 ppm fluoride ion) 1. Torell, P.; Ericsson, Y.: Int'l workshop on fl/dental caries red. (1974). 2. Ripa, L.W. JADA 102:477-481 (1981). 3. Birkeland, J.M.; Torell, P.: Caries Res. 12 (Suppl 1), 38-51 (1978). 4. Driscoll, W.S.; Swango, P.A.; Horowitz, A.M.; Kingman, A. JADA 105:1010-1013 (1982). 5. Koulourides, T. Data on file Warner-Lambert Canada Inc. 1985.

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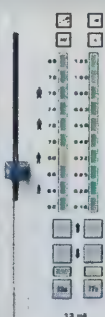
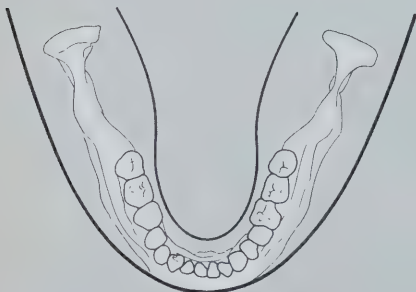
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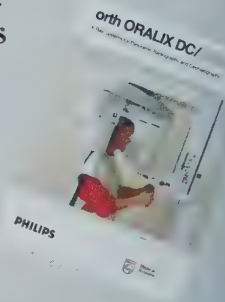
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**Canadian Fund for Dental Education
Fonds canadien pour l'enseignement dentaire**

Chairman's Report

It is a privilege to present this, my first message as Chairman of CFDE's Board of Trustees. 1985, I am greatly pleased to say, has been a year of continued progress for the Fund and one which truly marks a milestone in its proud history of support to the profession.

New records of assistance

1985 saw CFDE's total assistance for dentistry, which began with a modest \$5,000 in 1964, roll triumphantly **over the two million dollar mark** (\$2,140,000) and each and everyone who has supported our efforts over the years can be deeply satisfied with this remarkable achievement.

1985 was also the year the Fund's Trustees approved a record amount of \$226,000 in grants for educational and research programs. This is substantially more than the assistance CFDE has been able to provide in any previous year.

The programs the Fund has supported since its inception have been many and varied, but all have contributed substantially to the advancement of dentistry as each request for assistance has been weighed carefully against the overall needs of the profession.

A summary of 1985 grant support is provided on page 5 of this report and it gives me much pleasure to comment on some of the important new programs CFDE was able to fund.

First of all I would like our many friends to know that, at the 1985 annual meeting, the CFDE Trustees unanimously decided to establish The Murray McDonald Memorial Lecture to commemorate a true gentleman who exerted such a profound influence on shaping the Fund's form and destiny as its Executive Director for fifteen years. With the assistance of the many donations received in Mr. McDonald's memory, the Trustees also set up an Endowment Fund in his name, the income from which will be used exclusively to fund the Memorial Lecture.

Dr. William F. May, well known Professor of Ethics at Southern Methodist University in Dallas, Texas, who began his CFDE sponsored tour in the Western Provinces earlier in the year, delivered the first Murray McDonald Memorial Lectures in London and Toronto in November, to be followed by presentations in Quebec and the Atlantic Provinces in the spring of 1986. Dr. May's address on "The Intellectual and Moral Marks of the Professional" was enthusiastically received by students, educators and practitioners alike.

The first CFDE funded Summer Teaching Institute, conducted by the Association of Canadian Faculties of Dentistry, was held in June 1985. It was immensely successful as were the first follow-up programs held at several Universities. The purpose of the Institute, it will be recalled, is to improve the teaching skills of dental faculty members, particularly new members, who, through their influence on dental students, profoundly affect the future of our profession.

A significant feature at the 1985 National Convention was a Health Screening Facility which was greatly welcomed by members of the profession from across the country. The CFDE Trustees were most pleased to provide substantial funding for this important program directly benefiting the practitioners.

In 1985 the CFDE Trustees further demonstrated their concern for the future of the profession by providing increased support to help educate the public as to the value of good dental health. They continued their assistance, at a higher level, for National Dental Health Month as well as a Summer Student Program. They were also pleased to approve, for payment in 1986, funding for the computerized Dental Health Check-Up Program developed by ODA's Marketing Committee which works closely with CDA in the area of promoting dental awareness.



Highlights of 1985 income

Another landmark was reached in 1985 with total income from all sources surpassing \$300,000. This represents an increase of 6.7% over 1984.

It gives me much pleasure to report that again in 1985 personal donations of \$94,638 from dentists across the country were the Fund's largest single source of income. For this continued leadership by our colleagues, which is so essential to CFDE's success, my fellow Trustees and I are deeply grateful. I wish to note that those of us in the profession who support the Fund's programs, do so generously as is evidenced by the number of Patrons which rose to 133 in 1985 and the 329 doctors who gave at the Honour Member level. There are, however, many of our colleagues who do not assist their profession through CFDE and it is sincerely hoped they will join in our efforts in 1986 and beyond.

Our friends in business and industry continued their much appreciated support of our activities with gifts totalling \$75,910. This certainly is a reflection of their view of the importance of the Fund, especially in these times of corporate restraint.

I also wish to acknowledge, with gratitude, the ongoing fine support from dental organizations which totalled \$34,384 in 1985, as well as the many gifts from dental auxiliaries and various other contributors.

Special mention should be made of a \$10,000 endowment fund contribution CFDE received in 1985

(continued page 4)

Le rapport du président

C'est avec fierté que je présente mon premier message à titre de président du conseil des fiduciaires du FCED. Je vous annonce avec grand plaisir que 1985 a été une année de progrès continu, une période qui représente incontestablement un jalon déterminant au cours de la longue histoire de notre Fonds.

Un soutien qui bat tous les records

En 1985, l'aide totale apportée à la médecine dentaire (un appui qui avait commencé par la modeste somme de 5 000 \$ en 1964) dépassait triomphalement les **deux millions de dollars** (2 140 000 \$). Tous ceux qui ont soutenu nos efforts au fil des années peuvent être très fiers de cette réalisation.

1985 est également l'année quand nos fiduciaires ont approuvé un total qui battait tous les records, soit 226 000 \$ en subventions aux programmes d'enseignement et de recherche. Cette somme dépasse de loin l'aide que le FCED a pu offrir n'importe quand dans le passé.

Le Fonds finance, depuis ses tout débuts, un grand nombre de programmes dont tous contribuent considérablement à l'avancement de la profession; en fait, chaque demande d'aide est soigneusement évaluée en regard des besoins d'ensemble.

Nous publions à la page 5 de ce rapport, un résumé des subventions accordées en 1985 et je suis très heureux de pouvoir parler des importants nouveaux programmes que le Fonds a pu financer cette année.

Je désire avant tout vous faire savoir qu'à l'assemblée annuelle 1985, les fiduciaires du FCED ont unanimement décidé d'établir la conférence commémorative Murray McDonald, destinée à commémorer une grande personnalité qui a très profondément influé, au cours de ses quinze ans d'exercice à titre de directeur exécutif, sur la forme et le destin du Fonds. Avec l'aide de nombreux dons contribués en mémoire de M. McDonald, les

fiduciaires ont également créé en son nom un fonds de dotation, dont les intérêts serviront exclusivement à financer la conférence commémorative.

Le Dr W. May, professeur bien connu de déontologie à la Southern Methodist University à Dallas, Texas, commença sa tournée financée par le FCED dans les provinces de l'ouest et prononça les premières conférences commémoratives Murray McDonald à London et à Toronto en novembre, suivies par des présentations au Québec et dans les provinces atlantiques au cours du printemps 1986. Intitulé "The Intellectual and Moral Marks of the Professional", le discours du Dr May a été reçu avec enthousiasme par les étudiants, les enseignants et les praticiens.

Le premier Institut pédagogique d'été financé par le FCED, sous la direction de l'Association des facultés dentaires du Canada, fut tenu en juin 1985. Il remporta un succès retentissant, de même que les premiers programmes complémentaires organisés à plusieurs universités. Il vaut la peine de noter que l'objectif de l'Institut est de perfectionner la compétence pédagogique des professeurs, et en particulier celle des nouveaux enseignants qui, en raison de l'influence qu'ils ont sur les étudiants, influent profondément sur l'avenir de notre profession.

Un important événement du congrès national 1985 fut une clinique de dépistage, qui eut beaucoup de succès parmi les membres de la profession. Les fiduciaires du FCED furent très heureux de pouvoir offrir un financement considérable à cet intéressant programme, dont bénéficient directement les praticiens.

En 1985, les fiduciaires ont démontré une fois de plus le souci qu'ils portent à l'avenir de la profession, en contribuant un financement accru aux programmes destinés au public en vue de lui enseigner la valeur de la santé dentaire. Ils ont attribué des sommes même supérieures au Mois de la santé

dentaire et à un programme d'été pour les étudiants. Ils ont également approuvé pour 1986, le financement du programme informatisé d'examen buccal, élaboré par le comité de marketing de l'ODA, qui a des liens étroits avec l'ADC dans le domaine de la promotion de la santé dentaire.

Les points saillants des revenus en 1985

1985 marque également une année déterminante en ce qui concerne les revenus en provenance de toutes les sources: ceux-ci ont en effet dépassé 300 000 \$, soit une augmentation de 6,7% comparé à 1984.

Je suis très heureux d'annoncer qu'en 1985, les dons personnels des dentistes canadiens s'élevaient à 94 638 \$ et constituaient la plus importante tranche de revenu. Les fiduciaires sont profondément reconnaissants envers leurs collègues pour cette place en tête qu'ils continuent à assumer. Je désire souligner que les dentistes qui appuient les programmes du Fonds le font avec grande générosité, puisque le nombre de bienfaiteurs est passé à 133 en 1985, et celui de membres d'honneur à 329. Un grand nombre de nos collègues ne contribuent cependant pas au Fonds et nous espérons sincèrement qu'ils appuieront nos efforts en 1986 et à l'avenir.

Nos amis au sein de l'industrie et des affaires ont continué à soutenir nos activités et nous leur sommes très reconnaissants pour les 75 910 \$ qu'ils ont contribués. Cette somme reflète incontestablement l'importance qu'ils accordent au FCED, surtout lorsque l'on tient compte des restrictions budgétaires actuelles dans le milieu des affaires.

Je remercie les organismes dentaires pour leur aide continue. Ils ont contribué 34 384 \$ en 1985; nous avons également reçu de nombreux dons des auxiliaires dentaires et divers autres.

(suite page 4)

(continued from page 2)

from the estate of Mrs. Jessie Barrett of Ottawa in memory of her husband, Dr. George W. Barrett. The annual income from the endowment will benefit dentistry in perpetuity.

Finally I wish to recognize the growing number of in memoriam and tribute gifts forwarded to the Fund each year and to express the hope that our many friends will continue to remember CFDE with these thoughtful gifts as occasions arise. An attractive card is forwarded in the donor's name to acknowledge each gift.

Overhead is down again

It is significant to note that for the third consecutive year CFDE's overhead costs have been reduced thanks to the careful administration of the Trustees and staff. Management and fund raising costs, as a percentage of total income, were 25.9% in 1985 which reflects a reduction of 1.4% from the previous year.

Keeping in mind that CFDE is

affected by inflation just like everyone else, this is undoubtedly a remarkable accomplishment and a source of great satisfaction for us at the Fund and our supporters.

What lies ahead

CFDE, with its two million dollar investment in dentistry, has obviously played an important role in the advancement of the profession. With everyone's help it will continue to do so, on an even larger scale, in the years ahead.

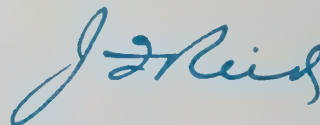
In recognition of the profession's changing needs, the Fund has already advanced in new directions. However, to ensure its granting priorities continue to conform to the latest community and professional requirements, the Trustees will again, in 1986, carefully examine and evaluate the programs sponsored by CFDE. High on their list of priorities will unquestionably be the support of programs that will contribute to the public's awareness of the importance of good dental health and will thus be of direct benefit to the dental profession and industry alike.

Appreciation

I express the Trustees' sincere gratitude to all who contributed to the Canadian Fund for Dental Education in 1985. Your support is as much appreciated as it is needed and I look forward to your continued and generous assistance in 1986.

I also wish to record the gratitude of the Trustees, and indeed the dental profession in Canada, for the exemplary leadership of my predecessor, Dr. David Peters, who so capably guided the affairs of the Fund during his three-year term of office.

Your CFDE Trustees have great expectations for the future of the profession. Together we can ensure their fulfilment.



J. Fred Reid

(suite de la page 3)

Je désire signaler qu'un fonds de dotation de 10 000 \$ a été établi en 1985 à partir de la succession de Madame Jessie Barrett, d'Ottawa, en mémoire de son époux, le Dr George W. Barrett. La médecine dentaire bénéficiera à perpétuité du revenu annuel de ce fonds de dotation.

Il est enfin important de noter le nombre croissant de dons commémoratifs contribués tous les ans au Fonds et d'exprimer l'espoir qu'un grand nombre de nos amis continueront à renforcer le FCED grâce à de généreuses contributions, lorsque se présentera l'occasion. A titre d'accusé de réception, une belle carte est envoyée au nom du donateur.

Une fois de plus, les frais d'exploitation sont en baisse

Pour la troisième année consécutive, les frais d'exploitation du FCED ont pu être réduits, grâce à la gestion prudente par les fiduciaires et le personnel. A titre de pourcentage du revenu total, les frais de gestion et de recueil de

fonds se sont élevés, en 1985, à 25,9%, soit une baisse de 1,4% comparé à l'année précédente.

Vu le fait que le FCED est frappé, comme tout le monde, par l'inflation, cette réalisation est remarquable et représente une source de grande fierté pour nous ainsi que nos nombreux donateurs.

Perspectives d'avenir

Avec son investissement de deux millions de dollars dans la médecine dentaire, le FCED joue assurément un rôle important en ce qui concerne l'avancement de la profession. Avec l'aide de tous, elle continuera à progresser et même, espérons-nous, à avancer à un rythme plus rapide.

Reconnaissant que les besoins de la profession changent, le Fonds s'est déjà dirigé vers de nouvelles directions. Afin d'établir des priorités qui répondent aux dernières exigences communautaires et professionnelles, les fiduciaires examineront et évalueront à nouveau en 1986 les programmes financés par le Fonds. Ils donneront incontestablement la priorité aux programmes qui

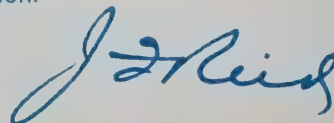
enseignent au public l'importance de santé dentaire et qui apporteront ainsi un bénéfice direct à la profession et à l'industrie dentaires.

Remerciements

Au nom des fiduciaires, je désire exprimer notre sincère reconnaissance vis-à-vis de tous ceux qui ont contribué au FCED en 1985. Nous espérons pouvoir compter sur leur générosité en 1986.

Les fiduciaires et l'entière profession dentaire canadienne manifestent une profonde gratitude à mon prédécesseur, le Dr David Peters, pour la compétence exemplaire avec laquelle il a dirigé le Fonds au cours de son mandat de trois années.

Les attentes des fiduciaires, en ce qui concerne l'avenir de la profession, sont considérables. Ensemble, nous veillerons à leur réalisation.



J. Fred Reid

1985 Financial Highlights

Faits financiers marquants

Income by source

Sources des revenus

Dental profession Profession dentaire	\$ 95,726	32%
Investment and sundry income Revenus de placements et de sources diverses	83,467	28%
Business and industry Commerce et industrie	75,910	25%
Dental organizations Associations dentaires	34,384	11%
Other contributors Autres donateurs	11,045	4%
TOTAL	\$ 300,532	100%

Dentistry has been enhanced by these grants

La médecine dentaire a pu faire de grands progrès grâce à ces subventions

Murray McDonald memorial lecture and endowment fund Conférence commémorative et fonds de dotation Murray McDonald	\$ 58,000	25%
Teacher training fellowships (Dentists and Dental Hygienists) Bourses de formation en enseignement (Dentistes et Hygiénistes dentaires)	43,700	19%
Grants to dental schools Subventions aux écoles dentaires	35,000	15%
Summer program to improve teaching skills of dental faculty members Programme d'été destiné à perfectionner les compétences d'enseignement des membres des facultés dentaires	20,000	9%
Conferences on orthodontic teaching, prelicensure and facial pain Conférences sur l'enseignement d'orthodontie, la préautorisation à l'exercice dentaire et la douleur faciale	15,000	7%
Student table clinics and conference Conférence et cliniques sur table des étudiants	14,855	7%
Dental health month and other public awareness programs Mois de la santé dentaire et autres programmes d'information	11,250	5%
Lorne E. MacLachlan Endowment / Dotation - Teacher training awards Bourses pour la formation d'enseignants	10,876	5%
Health screening program Programme de dépistage	6,000	3%
Dental hygiene workshop and educational projects Atelier d'hygiène dentaire et projets d'enseignement	3,581	2%
Sundry awards Octrois divers	7,944	3%
TOTAL	\$ 226,206	100%

Our records have been audited by Thorne Riddell. A copy of their report is available on request.

La vérification de notre comptabilité a été effectuée par Thorne Riddell. Une copie de leur compte-rendu financier sera envoyée sur demande.

Uses of support and revenue Emploi des fonds de soutien et revenus	\$ 300,532
Program commitments / Programmes	74.1%
Fund raising / Recueil de fonds	15.4%
Management and general / Gestion et général	10.5%

1985 Honour Roll

Tableau d'honneur

Business, Industry and Dental Organizations

Entreprises, industrie et organismes dentaires

Founding Members / Membres Originaires (\$10,000 and over - et plus)

- * Amalgamated Dental, Toronto, Ontario.
- * Canadian Dental Association, Ottawa, Ont.
- * Caulk, L.D. Company of Canada, Toronto, Ont.
- * Dentsply Canada Ltd., Toronto, Ont.
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- * College of Dental Surgeons of British Columbia, Vancouver, B.C.
- Dépôt Dentaire (Canada) Ltée., Montréal, Qué.
- Healthco (Canada) Ltd., Montreal, Que.
- * Imperial Life Assurance Company of Canada, Toronto, Ont.
- * International College of Dentists, Canadian Section, Toronto, Ont.

- * Johnson & Johnson Inc., Montreal, Que.
- Lever Detergents Ltd., Toronto, Ont.
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- * Ontario Dental Association, Toronto, Ont.
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- * Posen & Furie Dental Laboratories Ltd., Toronto, Ont.
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- * Syntex Dental Products Inc., Valley Forge, Pa.
- Teledyne (Densco, Getz, Hanau), Saratoga, Cal.
- * Williams Gold Refining Company of Canada Ltd., Fort Erie, Ont.

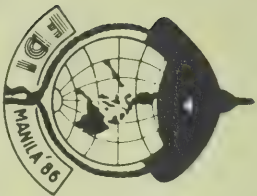
Although individual names are not listed, the Fund Trustees also wish to express their gratitude for the many smaller gifts received from various organizations.

Bien que les noms individuels ne soient pas cités, les responsables du Fonds désirent exprimer leur appréciation reconnaissante pour les nombreux dons plus modestes provenant de divers organismes.



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 Jackson, M., Toronto
 Jaeger, H.G., Cambridge
 Kajlura, D.M., Orleans
 Keyes, G.W., Cambridge
 Kikuchi, F.S., Brantford
 Kost, W.J., London

Kucey, S.P., Ottawa
 Lague, G.D., Brantford
 Lawton, D.M., Harrow
 Lin, C.G., London
 Long, F.K., Thornhill
 Marshall, N.G., Windsor
 McIntyre, T.R., Barrie
 McKenna, P.E., Ottawa
 Miller, D.R., Oshawa
 Moreau, M.E., Kitchener
 Oates, L.E., Chatham
 Pannozzo, P., Hamilton
 Petro, V.A., Hamilton
 Prange, E.B., Kitchener
 Ridsdale, D.C., Cambridge
 Rife, D.L., Toronto
 Roach, K.L., Pembroke
 Scanlon, D.P., Penetanguishene
 Schofield, I.D.F., London
 Shaw, M.J., Ottawa
 Shykoff, J.C., Espanola
 Slater, M.A., Downsview
 Spencer, W.J., Niagara Falls
 Taylor, J.B., London
 Tortorella, F., St. Catharines
 Travis, C.G., Ottawa
 Wachta, E.J., Guelph
 Walker, L.G., Vanier
 Webster, C.L., Nepean
 Zakarow, P., Oshawa

HONOUR MEMBERS / MEMBRES D'HONNEUR (\$100 - \$199)

Abrahams, E.J., Ottawa
 Allen, D.R., Port Elgin
 Anker, G.S., Toronto
 Armstrong, W.K., Alliston
 Barlow, T.J., Hamilton
 Beach, H.N.B., Ottawa
 Beauprie, D.J., Deep River
 Beck, P.M., Toronto
 Biggar, M., Cobourg
 Bilinski, W.J., Welland
 Bimbaum, S., Toronto
 Black, W.R., Aurora
 Blumenthal, A.M., Windsor
 Boyd, V.N., Cambridge
 Brinda, P., Niagara Falls
 Brooke, R.I., London
 Browne, V.M., Toronto
 Buljubasic, M.R., Toronto
 Burgman, G.W., Kirkland Lake
 Burlington, M.F., North Bay
 Burman, D.G., Toronto
 Burman, L.H., Gloucester
 Catran, C.F., Bowmanville
 Chaytor, B.M., Oshawa
 Cherun, M.J., Ottawa
 Chou, N.W., Windsor
 Clappison, R.A., Toronto
 Compton, F.H., Toronto
 Dagys, A.P., Scarborough
 Davis, A.M., Richmond Hill
 Dolansky, B.H., Ottawa
 Dunn, W.J., London
 Earle, S.M., Ottawa
 Ellis, J.J., Niagara Falls
 Ellis, R.G., Toronto
 Falconi, S.J., Weston
 Fawcett, J.I.H., Lindsay
 Feasby, W.H., London
 Fejes, J.M., Windsor
 Fenton, A.H., Toronto
 Fuzy, K.M., Windsor
 Fuzy, S.J., Windsor
 Genier, D.V., Cochrane
 Gorchynski, D.M., Kanata
 Graham, J.R., Ottawa
 Grose, R.S., Toronto

Harris, A.J., London
 Hawkins, J.M., Willowdale
 Hedley, F.W., Ottawa
 Hess, G.V., Windsor
 Hicks, J.K., Hamilton
 Holmes, B.W., Kenora
 Hrabowsky, I., St. Catharines
 Hudgins, W.B., Alliston
 Hurd, B.J., Burlington
 Imperius, E., Thunder Bay
 Ip, K.B., Mississauga
 Jack, R.N., Kitchener
 Jackson, B.M., Kitchener
 Jacobsen, E.B., Orleans
 Johnston, J.R., Corbell
 Johnston, W.J., Martintown
 Kenneger, C.M., Toronto
 Kindiak, W.A., Ottawa
 Lawrence, L.G., Toronto
 Lazar, J.A., Willowdale
 Lemieux, M.R., Ottawa
 Leskiw, W., Niagara Falls
 Li, M.W., Ottawa
 Listrom, R.D., Toronto
 Little, G.E., Niagara Falls
 Marcassa, J.M., New Liskeard
 Martin, J.M., Toronto
 McCulloch, C.A., Hamilton
 McKegney, R.S., Toronto
 McWade, R.A., Nepean
 Mills, W.H., Toronto
 Murchison, A.C., Ottawa
 Ong, L.M., London
 Palinka, R.B.N., Thunder Bay
 Panzer, H.M., Toronto
 Paolasini, J.A., Grimsby
 Parks, M.C., St. Catharines
 Pascoe, H.W., Toronto
 Patel, P., Rexdale
 Paterson, D.J., Windsor
 Pearson, M.H., St. George
 Peltoniemi, R.E., Thunder Bay
 Pepper, J.F., Willowdale
 Pileski, R.C.A., Hamilton
 Pownall, K.F., Toronto
 Richmond, J.E., Trenton

Robinson, J.D., Ottawa
 Rocci, F.M., Stoney Creek
 Rogers, L.W., London
 Roman, J.S., Samia
 Sandell, J.R., Port Colborne
 Schatz, S., Scarborough
 Scott, G.K., Hamilton
 Scott, P.A., Toronto
 Sills, P.S., London
 Smith, D.B., Belleville
 Solanki, V.R., Kitchener
 Southward, K.S., Beamsville
 Spence, W.J., Toronto
 Spencer, D.M., London
 Stasiak, R.E., St. Catharines
 Stasko, J.G., Windsor
 Stauffert, H.W., Barrie
 Stirling, G.C., Toronto
 Szillock, R.S., Waterloo
 Truscott, G.N., Ottawa
 Truvert, M., Toronto

Vasiga, G.J., Kitchener
 Verbic, Z.A., Toronto
 Vincent, J.M., Ottawa
 Vogl, W.L., Toronto
 Walden, G.F., London
 Wayne, W.H., Ottawa
 Weld, H.G., Ottawa
 White, E.A., Scarborough
 Willard, J.C., Chatham
 Williams, B.J., Windsor
 Wilson, A.J., Windsor
 Woodall, G.L., Milton
 Woods, C.E., Ottawa
 Worth, A.T., Thamesville
 Wright, W.D., Guelph
 Yadao, A., Oshawa
 Yim, D.S., Toronto
 Young, C.L., Pembroke
 Young, S.I., Toronto
 Yule, O.J., Willowdale

MEMBERS / MEMBRES (\$25 - \$99)

Aberback, A., Ottawa
 Alter, P.J., Toronto
 Anderson, D.L., Toronto
 Anderson, F.H., Collingwood
 Andrachuk, P.P., Toronto
 Andros, P.P., London
 Annis, D.G., Guelph
 Applebaum, N.B., Willowdale
 Armstrong, L.W., Kenora
 Arthur, C.T., Cambridge
 Asling, P.M., Uxbridge
 Aurlick, N.W., Downsview
 Babcock, J.K., Oakville
 Baechler, J.E., Richmond
 Baldassi, F., Hamilton
 Ballantyne, D.G., Thunder Bay
 Balogh, G., London
 Balogh, L., London
 Banting, W.A., Kinmount
 Barr, R.A., Gloucester
 Bastian, R.R., Peterborough
 Bates, P.A., St. Catharines
 Beamish, C.B., Port Hope
 Beath, R.L., London
 Beaton, W.D., London
 Beauchesne, D.G., Georgetown
 Beaulac, R., Hawkesbury
 Begin, J.F., Barrie
 Beiler, E.H., Kitchener
 Bell, D.E., Ottawa
 Bell, K.J.G., Wallaceburg
 Berman, J., Ottawa
 Bertrand, J.G., Ottawa
 Blackstien, B., Niagara Falls
 Boadway, D.N., Aylmer
 Bobkin, A.D., Willowdale
 Bodrug, W., Brampton
 Bolshin, G.M., Scarborough
 Bondarchuk, A., St. Catharines
 Bossé, S., Cornwall
 Boucher, G.B., Penetanguishene
 Boulos, N.N., Toronto
 Bourque, P., Toronto
 Boyes, M.G., Bracebridge
 Bray, G.R., Meaford
 Breglia, A.J., Toronto
 Britton, J.E., Guelph
 Brockhouse, I.B., Hamilton
 Brown, E.G., Woodstock
 Bruce, W.R., Kincardine
 Brunet, M.P., Vanier
 Bunt, R.D.H., Trenton
 Burgess, G.E., Petrolia
 Burgoyne, A.R., London
 Busvek, E.A., St. Thomas
 Bye, M.N., Owen Sound
 Caine, D.A., London
 Campbell, J.F., Oshawa
 Carpenter, I.P.D., Ottawa
 Carter, J.H., Samia
 Chambers, D.B., Barrie
 Chapnick, B.S., Toronto
 Charnick, G., Toronto
 Charendoff, M.D., Willowdale

Chernin, S., Scarborough
 Chomyn, J.A.W., Ottawa
 Clark, J.W., Niagara-on-the-Lake
 Clark, W.R., Welland
 Cluett, A.W.E., London
 Collins, J.E., Simcoe
 Colson, D.G., Toronto
 Coney, E.A., Waterloo
 Connors, T.R., Oshawa
 Cook, W.F., Sudbury
 Cooper, M.L., Toronto
 Corti, A.F., Samia
 Coupland, J.G., Almonte
 Coupland, J.P., Ottawa
 Cousins, D.E., London
 Cox, T., Guelph
 Coyne, I.M., Bracebridge
 Craig, C.A., Peterborough
 Cripps, C.N., Carp
 Croxford, M.J., Bracebridge
 Crowe, D.F., Barrie
 Cuddy, K.G., Oakville
 Cudmore, J.E., Mississauga
 Dallal, N.J., Toronto
 Davidson, C.T., Orleans
 Davis, L., Thornhill
 Dean, A.M., Kapuskasing
 Diefenbacher, N.L., Kitchener
 Dignard, J.A., Embrun
 Dimitry, J.W., Willowdale
 Dimitry, S.R., Willowdale
 Dinniwel, E.R., Hamilton
 Di Ponio, M.I., Windsor
 Doner, O.P., Elliot Lake
 Doney, W.W.P., Ailsa Craig
 Drake, D.H., Stratford
 Duggan, J.H., Stratford
 Dulmage, D.D., Dunnville
 Dunec, A., Toronto
 Ellis, B.G., Toronto
 Evans, R.F., Picton
 Eversley, J.A., Windsor
 Fasken, J.T., Oakville
 Fawcett, C.J., Listowel
 Fedorenko, R.W., Southampton
 Fedori, D.M.A., Thunder Bay
 Feldman, A., Toronto
 Fendrich, P., London
 Fisk, R.O., Toronto
 Fleming, R.P., Grimsby
 Florence, M., Toronto
 Foster, D.W., Peterborough
 Fox, E.J., Toronto
 Francis, D.B., Timmins
 Freedman, H.L., Toronto
 Freeman, J.F., Scarborough
 Galbraith, R.H., London
 Gifford, D.E., Ottawa
 Gilbert, D.A., St. Thomas
 Gilbert, D.H., Tilbury
 Gilchrist, D.W., Kemptonville
 Gillan, R.D., Brockville
 Glantz, G., Vanier
 Gliddon, J.D., Woodstock

HONOUR ROLL/TABLEAU D'HONNEUR

Godfrey, A., Willowdale
Goldfarb, A.J., London
Good, C.N., Kitchener
Green, D.M., St. Thomas
Greenhorn, P.A., London
Greenland, L.A., Scarborough
Groff, D.F., Ajax
Haltrecht, E.S., Willowdale
Hamilton, R.M., Oakville
Hanaka, G.W., Windsor
Hargadon, P.K., Ottawa
Harper, E.A., Stoney Creek
Hartleib, P.C., Kitchener
Harvey, D.R., London
Hasenpflug, H.O., Kitchener
Hausmanis, M.K., Toronto
Henderson, E.C.P., Welland
Hinch, J.B., Toronto
Hoffer, A., Toronto
Holloway, N.C., Sarnia
Hornis, J.L., Mississauga
Hucks, J.F.B., Peterborough
Hunter, R.J., Uxbridge
Hurst, E.R., Nobleton
Imrie, W.J., Toronto
Intrater, A., Toronto
Jackson, D.J., Trenton
Jacobson, K.A., Thunder Bay
James, R.S., Simcoe
Jarema, J.J., Mississauga
Jarvis, K., Toronto
Jeffries, A.E., Scarborough
Jennings, R.L., Dundas
John, D.A., Cornwall
Jolly, J.W., Waterloo
Kacinik, A.P., Toronto
Kagetsu, L.J., Waterloo
Kamen, H., Ottawa
Kan, K.M., Toronto
Karro, M.L., Toronto
Keeling, P.A., Frankford
Kendal, N.K., Toronto
Kenny, D.J., Toronto
Kerr, J.M., Scarborough
Kinoshita, F.Y., St. Catharines
Klimasko, S.P., Hamilton
Knight, M.G., Kingston
Knowles, C.J., Fergus
Kohl, A., Willowdale
Konietzko, K.H.M., Dundas
Kozak, A.L., Hamilton
Lazare, L.L., Ottawa
Lazarowich, M.J., Hamilton
Lehman, R.P., Uxbridge
Lemieux, V.P., Milverton
Levin, L.M., Hamilton
Levine, H.L., Ottawa
Levine, N., Toronto
Levinson, K.I., Toronto
Lewin, J.W., Toronto
Lieberman, A.W., Toronto
Lightford, I.G., Perth
Lightman, I., Toronto
Lingard, R.J., Exeter
Lipnowski, D., Ottawa
Lysyk, G., Oshawa
MacDonald, R.A., Kincardine
MacKay, D.G., Port Elgin
Mackie, R.W., Hamilton
MacLean, I.R., Stratford
Madronich, W.G., Hamilton
Magli, L.A., Mississauga
Magne, G.A., Dresden
Main, J.H.P., Toronto
Main, P.A., Toronto
Malik, T., Burlington
Mamandras, A.H., London
Mancini, N.A., Hamilton
Manilla, L.M., Willowdale
Manswell, H.B., Scarborough
Marion, H.J., Pembroke
Marko, D., Ottawa
Martin, R.B., St. Thomas
Martin, R.F., Toronto
Mason, W.H.E., London
Mathers, K.S., Kitchener

Mazak, E.H., Windsor
McDowell, D.M., Timmins
McKay, T., Ridgeway
McNab, R.G., Port Perry
McNally, T.A., Trenton
McQueen, D.T., Hamilton
McTavish, R.D., Walkerton
Meilus, V.J., Toronto
Mergl, J.P., Ottawa
Merritt, R.D., London
Metaxas, A., Toronto
Metcalf, W.J., Simcoe
Miner, J.F., Ottawa
Minielly, B.D., Tillsonburg
Mitchell, R., Grand Valley
Mohareb, A.A., Napanee
Mook Sang, W., Ottawa
Moore, D.B., Barrie
Morrow, D.J., Borden
Moser, H.S., Sudbury
Mossop, S.A., Newmarket
Munro, D.W., London
Munro, K.N., Willowdale
Murphy, W.A., Markham
Natvik, A.M., Highgate
Nelson, R.M., Peterborough
Nolan, D.R., St. Thomas
Norman, M., Ottawa
Novakovic, D.P., Mississauga
O'Connor, D.J., Ottawa
Oldfield, L.T., Cambridge
Oldfield, R.B., Kingston
Oliver, N.E., Ottawa
O'Neill, E.A., Kingston
Oneson, R.A., Gloucester
Ostrega, K., Ottawa
Oswald, G.A., St. Catharines
Owen, A.M., Wawa
Panchuk, J.W., Nepean
Parrott, H.C., Woodstock
Patenaude, H., Ottawa
Patterson, A.R., Kitchener
Patterson, J.K., Aylmer
Pavelic, A., Rexdale
Pawlikowski, W., Oakville
Pedlar, B.L., Burlington
Peloso, P.G., Kitchener
Peters, C.J., Ottawa
Peters, J.H., Goderich
Petrisor, A.J., Woodstock
Petryshyn, O., Toronto
Pezuk, W.D., Barrie
Pharoah, M.J., Toronto
Phillips, G.D., Kitchener
Pick, R.H., Toronto
Pillersdorf, P., Toronto
Pitkin, G.E., Agincourt
Plank, D.E., Hamilton
Post, G.C., Thunder Bay
Potashin, H.M., Toronto
Potter, W.A., Niagara Falls
Pritchard, J.S., Ottawa
Rajan, W.C., Tweed
Rawson, D.E., London
Reid, J.A., London
Remillong, G.J., Windsor
Richardson, B.A., Kitchener
Riordan, P.J., Oshawa
Roberge, J.A., Ottawa
Robertson, F.A., Thunder Bay
Robinson, B.W., Ottawa
Rockman, P.S., Willowdale
Rodrigues, E.V., Ottawa
Romanson, P.C., London
Rondeau, B.H.M., London
Rosen, S., Toronto
Rosenbaum, S.J., Toronto
Rosenberg, P., Ottawa
Rosenthal, S.E., Scarborough
Ross, H., Downsview
Rouble, G.L., Renfrew
Sakarya, A.J., Toronto
Sakarya, M., Toronto
Sandham, H.J., Toronto
Sawatzky, K.J., Fonthill
Scarfione, J.D., Windsor

Shafer, S.C., Waterloo
Shamess, E.J., Wawa
Shearer, D.A.S., Hamilton
Simpson, B.A., Downsview
Smart, H.J., Hawkesbury
Smith, N.C., Markdale
Smyth, R.J., London
Somer, D.J., Hamilton
Sorensen, A.D., London
Speck, J.E., Toronto
Speirs, W.A., Hagersville
Sproviero, F., Sarnia
St. George, G.L., Sturgeon Falls
Stants, B.L., Mississauga
Starkovski, K.D., Scarborough
Stavro, J.G., Guelph
Steggles, W.A., Smiths Falls
Stewart, D.A.E., Willowdale
Stickel, C., Tillsonburg
Storey, T.K., Sarnia
Strain, D., Mississauga
Sullivan, C.B., Willowdale
Sunohara, P.T., Toronto
Sussman, L.M., Toronto
Swartz, E.E., Windsor
Teskey, D.C., Toronto
Thain, R.G.L., Embrun
Thompson, W.R., Trenton
Thomson, A.H., Toronto
Thurston, D.B., Owen Sound
Tile, H., Don Mills
Timmers, B.W., Ottawa
Tokiwa, J.T., Toronto

Torneck, C.D., Toronto
Towell, S.T., Stittsville
Truemmer, N.P., Kitchener
Trull, R.J., Mississauga
Tso, D.M., Toronto
Tuch, L.H., Toronto
Tulumello, A.V., Welland
Tytanek, W.N., St. Catharines
Vachon, A., Cornwall
Valenzano, L.G., Toronto
Valenzano, M.M., Woodbridge
Venditti, B.A., Woodbridge
Vincelli, D.J., Ottawa
Vollmer, R.H., Ottawa
Vtipil, O., Thunder Bay
Wachna, T.H., Windsor
Wansbrough, R.D.,
Sault Ste. Marie
Wasiak, R.T., St. Catharines
Watts, J.R., Cambridge
Weegar, R.C., North Bay
Weinberg, S., Toronto
Whetham, D.W., Mitchell
Whitely, A.R., Oakville
Williams, B., Brantford
Williams, L.A., Scarborough
Winegard, S.C., Timmins
Witchel, J., Toronto
Yanover, L.R., London
Young, D.S., Toronto
Ziereisen, P.A., Orleans
Zietsma, F.J., Burlington

Québec

PATRONS / BIENFAITEURS (\$200 and over - et plus)

Camarda, A.J., Montréal
Chaumont, A., Laval
Couture, L.C., Pierrefonds

LaFontaine, J.-G. Hull
Lafrance, J., Montréal
Lamarche, C., Montréal

HONOUR MEMBERS / MEMBRES D'HONNEUR (\$100 - \$199)

Barolet, R.Y., Ste-Foy
Bégin, J., Montréal
Bélanger, D., Montréal-Nord
Bernier, L., Sillery
Bouchard, N., Longueuil
Boutin, M., St-Hubert
Carle, S., Montréal
Daigle, L., Montréal
Dion, M., Sillery
Dushkin, J.L., Ville d'Anjou
Fortin, J.-M., Laval
Gampel, P.C., Westmount
Gervais, R., Trois-Rivières
Head, T.W., Montréal
Jahjah, M., Montréal
Kadowaki, R.S., Roxboro
Katz, I., Montréal
Lafortune, M.-A., Laval

Larose, P., St-Laurent
Leclerc, C., Montréal
Leith, D.R., Dorval
Michaud, G., Montréal
Miller, S.I., Pointe-Claire
Munro, D.J., Montreal
Orawiec, R.J.B., Aylmer
Poznak, G., Montreal
Rosen, H., Montreal
Roy, S., Ste-Foy
Solomon, D., Westmount
Taylor, D., Westmount
Terriault, F., Chomedey, Laval
Vaillancourt, A., Montréal
Wainberg, A.S., Montreal
Werbit, M.J., Montreal
Wilkins, M.A., Dorval
Yoo, B.S.P., Brossard

MEMBERS / MEMBRES (\$25 - \$99)

Al-joburi, W., Montréal
Allard, R., Pincourt
Androustos, E.A., Montreal
Baum, H.M., Montreal
Beaudet, C.A., Montréal
Beauvais, D., Ville-Marie
Bentley, K.C., Montreal
Bernard, D., Amos
Bigras, M., Rigaud
Bock, J.-G., Montréal
Boucher, L., Princeville
Boulet, G., Québec
Brien, N., Montréal
Capelle, M., Montreal
Carrier, R., Val d'Or
Chrétien, R.J., Campbell's Bay
Crutchfield, C.B., Quebec
Dallaire, A., Greenfield Park
Dallaire, J., Lachute
Dallaire, S., St-Georges Est
Daoust, M., Beauharnois

David, R.J., Montreal
De Montigny, G., Montréal
Desrochers, M., Montréal
Dion, G., Brossard
Dorval, C., Montréal
Ducharme, D., Montréal
Duchesneau, D., Drummondville
Dufault, R., St-Hubert
Dufresne, E.,
St-Sauveur des Monts
Dufresne, R., Montréal
Durand, L.-M., St-Bruno
Durand, S., New Richmond
Edmison, R.S., Montreal
Ferland, P.G., Pierrefonds
Fong Chong, J.R., Montreal
Franklin, J.L., Montreal
Gagnon, M., Métabetchouan
Gougeon, R., Matapédia
Grégoire Langevin, H., Hull
Guillotte, B., Montréal

HONOUR ROLL/TABLEAU D'HONNEUR

Guimond, J., Montréal
Haddad, A., St-Laurent
Huot, R., Montréal
Hurley, R., Montréal
Jean, P., Québec
Jenne, R.E., Beaconsfield
Jetté, L., Val d'Or
Johnston, G.M., Pointe-Claire
Jones, R.G., Montréal
Kandelman, D., Montréal
Kehoe, J.E., Pointe-Claire
Labelle, R.P.J., Buckingham
Lafontaine, M., Drummondville
Lafrance, G., Thurso
Lamarre, G., Ste-Catherine
Lamarre, J.-R., Matane
Laporte, J.L., Montréal
Laroche, J., Trois-Rivières
Larocque, J., Val d'Or
Lazare, M., Pointe-Claire
Legault, B., Gaspé
Lemieux, D., Ile Perrot
Lussier, J.-P., Montréal
Lussier, L., St-Lambert
MacDougall, G., Lennoxville
Maliska, J., Montréal
Maranda, G., Québec
Marcil, B.,
Ste-Thérèse-de-Blainville
Massicotte, G., Sillery
Masson, J.-P., Montréal
Meunier, R., St-Bruno
Millar, E.P., Montréal
Minville, P.-R., Beauport
Miron, D., Montréal
Morin, S., Ste-Foy
Moscovitch, M.S., Westmount
Nappert, R., Victoriaville

Nudo, J., Montréal
Paradis, A.L.S.P., Rouyn
Paradis, R., Rouyn
Patenaude, C., Montréal
Pilon, R., Laval
Pinchuk, M., Westmount
Pion, S., Amqui
Poirier, G., Lachine
Provost, A., Chomedey, Laval
Rénald, R., Chicoutimi
Rennert, M.D., Montréal
Richer, A., Terrebonne
Robichaud, H.M., Montréal
Roy, D., Rimouski
Schneider, G., Montréal
Silver, I.I., Montréal
Simard, P., Lévis
Simard, Y., Louiseville
Spira, A., Montréal
Staples, P.C., Montreal-West
Tardif, N., Ste-Foy
Tekela, A., Montréal
Théorêt, Y., St-Timothée
Thériault, J.-G., Repentigny
Touchette, L., Gatineau
Traversy, M.C., St-Hubert
Tremblay, D., Pte-aux-Trembles
Trépanier, M., Farnham
Tse, Q., Montréal
Turgeon, J., Montréal
Turgeon, L., New-Richmond
Varin, R., Cap-aux-Meules
Veilleux, G., Repentigny
Viau, N., Chambly
Vienneau, A., Hull
Vincent, N., Hâvre St-Pierre
Weinlander, G.H.G., Montréal

Christie, R., Fredericton, N.B.
Conrad, G.M.D.,
Dartmouth, N.S.
Conrod, A.L.B., Sydney, N.S.
Conrod, C.M., Sydney, N.S.
Corrigan, A.E., Parkdale, P.E.I.
Creaser, B.A.,
New Germany, N.S.
Curtis, G.B., St. John's, Nfld.
Cyr, P.F., Bathurst, N.B.
De Boucherville, P.,
Dalhousie, N.B.
De Ware, R.B., Moncton, N.B.
Dowd, J.T., Moncton, N.B.
Ervin, A.H., Dartmouth, N.S.
Furlong, R.F., St. John's, Nfld.
Gardner, H.D., Liverpool, N.S.
Goudie, W., Stephenville, Nfld.
Gravitis, K.,
Lower Sackville, N.S.
Grondin, P., Edmundston, N.B.
Gushue, T.J., St. John's, Nfld.
Halford, E.D., Renforth, N.B.
Hannigan, E.J., Halifax, N.S.
Hodgson, J.G.,
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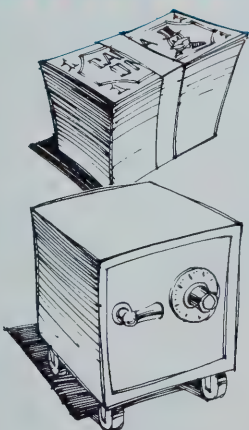
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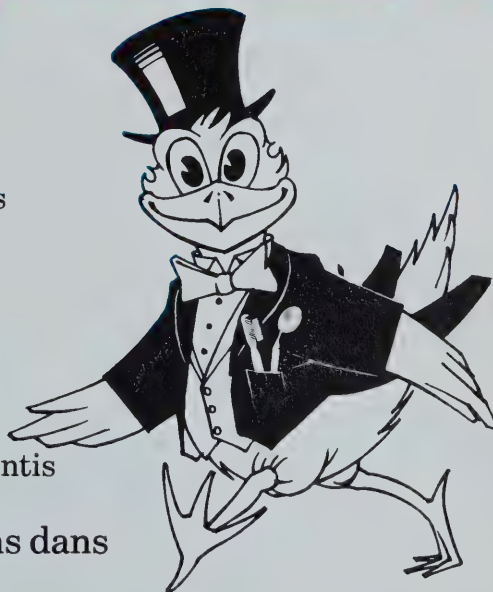
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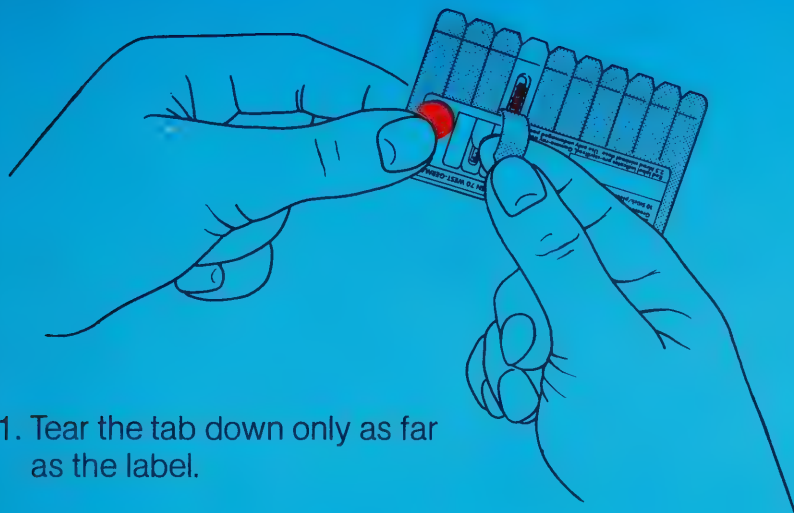


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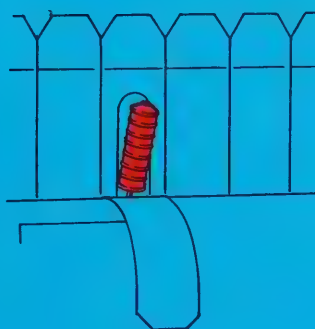
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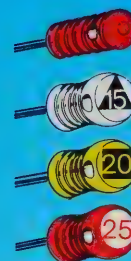
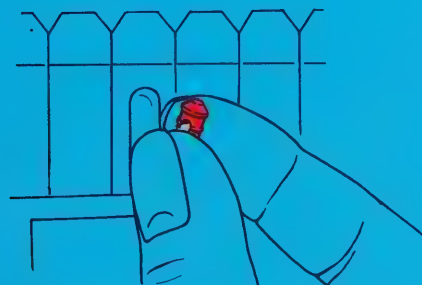


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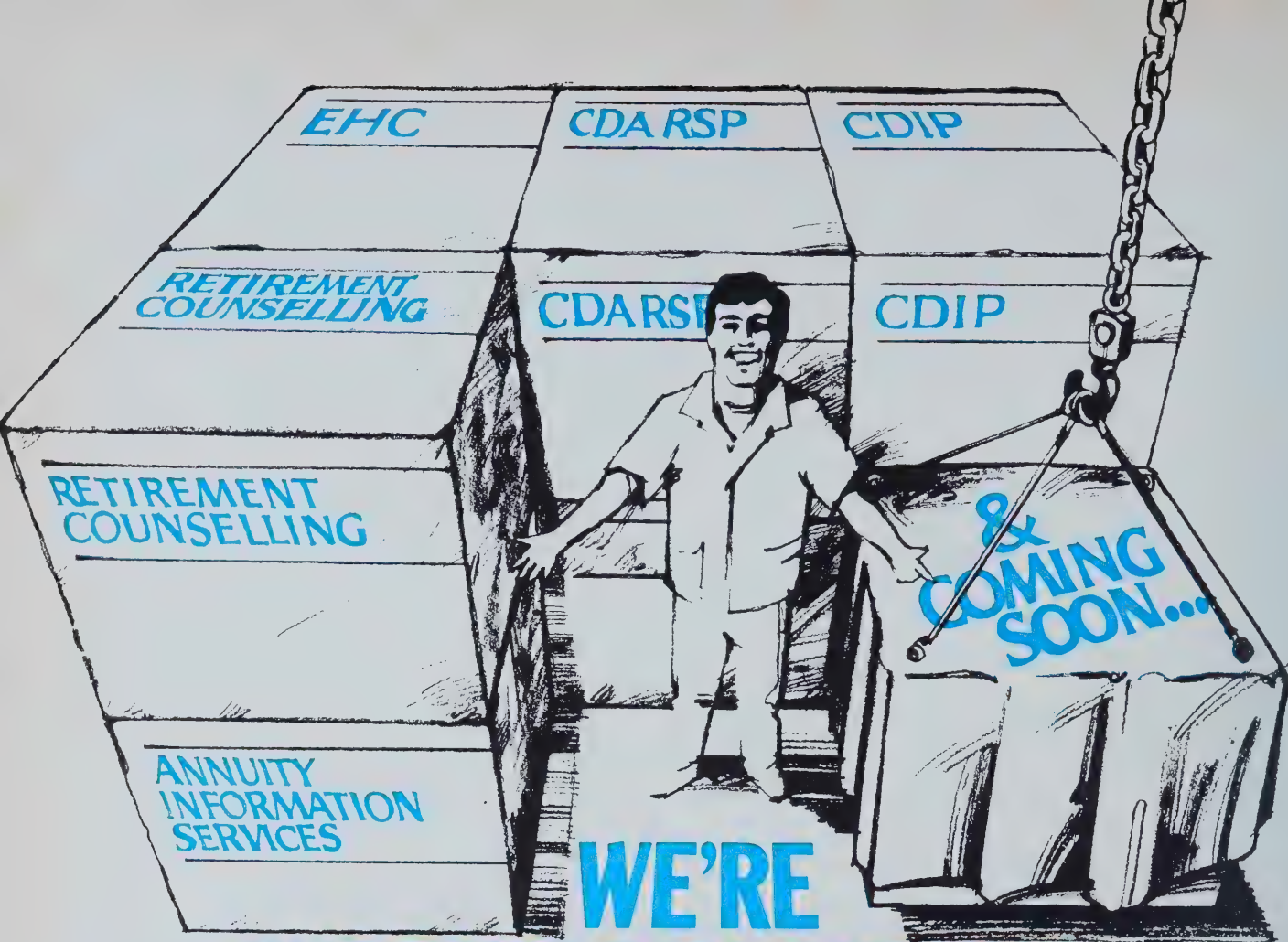
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Faculty of Dentistry Dalhousie University 5981 University Ave., Halifax, N.S. B3H 3J5	Halifax N.S.	TMJ/MPD	Pain Management	April 18 and 19	Lecture	Drs. A. Thompson, D. Miles A. ElGeneidy K. Abramovitch	Open	\$180 DDS \$100 Aux.	GPs Assistants Hygienists	Dr. Gary Jackson (902) 424-2248
Faculty of Dentistry McGill University 740 Docteur Penfield Montréal, Qué. H3A 1A4	Montréal (McGill)	Geriatric Dentistry	Dentistry for the Aged	April 18	Lecture	Dr. Rita Hurley Dr. F. Vosburg	Open	\$125	GPs	Mrs. Olga Chodan (514) 392-4921
Faculty of Dentistry McGill University 740 Docteur Penfield Montréal, Qué. H3A 1A4	Montréal (McGill)	Comprehensive Course in Posterior Composite Resins	Restorative Dentistry	May 23	Lecture Demo Participation	Dr. Ivan Stangel	Limited to 20	\$125	GPs	Mrs. Olga Chodan (514) 392-4921
Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ont., M5G 1G6	Faculty of Dentistry Toronto	Surgical Endodontics	Endodontics	May 1	Lecture Demo.	Dr. W.H. Pulver	Limited to 20	\$125	GPs	Mai Pohlak (416) 979-4503
Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ont., M5G 1G6	Faculty of Dentistry Toronto	Photography in Dentistry		June 11	Lecture Demo. Participation	Rita Bauer	Limited to 12	\$125 DDS \$85 Aux.	GPs Specialists Assistants Hygienists Lab Technicians	Mai Pohlak (416) 979-4503
Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ont., M5G 1G6	Toronto	Osseointegration in Clinical Dentistry	Prosthodontics	June 23 to 25 (Inclus.)	Lecture Demo. Participation	Dr. George Zarb	Limited to 10	\$1500	Prosthodontists only.	Mai Pohlak (416) 979-4503
Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ont., M5G 1G6	Four Seasons Hotel Toronto	Prescription for the Treatment of Periodontal Disease	Periodontics	Nov. 14	Lecture	Dr. Eric Freeman	Open	\$225 DDS \$150 DH	GPs Hygienists	Mai Pohlak (416) 979-4503

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Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	Comp. 050 Computer Demonstration	Computers	April 9	Demonstration	Michael Barrington	Maximum of 12	\$55	GPs Specialists Assistants Hygienists Lab. Technicians	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Orillia	Endo. 101 Endo. Update	Endodontics	April 11	Lecture	Dr. Ken Serota	Limited to 60	\$150	GPs	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Sudbury	Anaes. 100 Pain Control	Pain Control	April 11	Lecture	Dr. Mel. Hawkins	Limited to 50	\$150	GPs	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Orillia	Endo. 201 Participation Endo.	Endodontics	April 12	Participation	Dr. Ken Serota	Limited to 24	\$325 Lab. Instruments \$ 1000	GPs	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Sudbury	Anaes. 201 Local Anaesthesia	Pain Management	April 12	Participation	Dr. Mel Hawkins	Limited to 10	\$325	GPs	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Thunder Bay	PM 105	Practice Management	April 18	Lecture	Jerry White	Limited to 50	\$150	GPs Specialists Assistants Hygienists Lab. Technicians	Carole Latibeaudière (416) 922-3900
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Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Ottawa	Perio. 200 Surgical Periodontics	Periodontics	May 1 & 2	Participation	Drs. G. Pearson and E. Freeman	Limited to 20	\$325 Instruments Extra	GPs Assistants	Carole Latibeaudière (416) 922-3900

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Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	North Bay	PM 106 Business Check-Up	Practice Management	May 2	Lecture	Dr. T. Keishaw Derek Hill, C.A.	Limited to 50	\$150	GPs Specialists Assistants Hygienists Lab. Technicians	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	Anaes. 100	Pain Management	May 2	Lecture	Dr. Mel Hawkins	Limited to 60	\$150	GPs	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Windsor	Restorative 101 Bonding	Restorative Dentistry	May 2	Lecture	Dr. John Pate	Limited to 50	\$150	GPs	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	Anaes. 201 Local Anaesthesia	Pain Management	May 3	Participation	Dr. Mel Hawkins	Limited to 10	\$325	GPs	Carole Latibeaudière (416) 922-3900
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Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	Anaes. 202 Emergencies	Emergency Dentistry	May 24	Participation	Dr. Mel Hawkins	Limited to 10	\$325	GPs	Carole Latibeaudière (416) 922-3900

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Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	Comp. 101	Computers & Dentistry	May 30	Lecture	Michael Barrington	Limited to 24	\$150	GPs Specialists Assistants Hygienists Lab. Technicians	Carole Latibeaudière (416) 922-3900
Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Kitchener	MR 100	Medical Risk Management	May 30	Lecture	Dr. Kevin Dann	Limited to 60	\$150	GPs Specialists Assistants Hygienists Lab. Technicians	Carole Latibeaudière (416) 922-3900
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Ontario Dental Association 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	MR 100	Medical Risk Management	June 20	Lecture	Dr. Kevin Dann	Limited to 60	\$150	GPs Specialists Assistants Hygienists Lab. Technicians	Carole Latibeaudière (416) 922-3900
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Continuing Dental Education University of British Columbia, 105 - 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver B.C.	Symposium on Infectious Diseases in the Dental Practice: AIDS, Herpes and Hepatitis B	Infection Control	April 12 and 13	Lecture	Dr. Joel Epstein (Coordinator)	Open	\$95 for DDS \$50 Aux.	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson Jane M. Wong (604) 228-2627
Continuing Dental Education University of British Columbia, 105 - 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Head, Neck and TMJ Pain A Medical Dental Perspective	Pain Management	May 3	Lecture	Dr. Terry T. Tanaka	Open	\$95 DDS \$50 Aux.	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson Jane M. Wong (604) 228-2627
Continuing Dental Education University of British Columbia, 105 - 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	An Update on Local Anaesthetics & Vasoconstrictors for Dental Practitioners	Pain Management Operative Dentistry	May 24	Lecture Demo. Participation	Dr. John A. Yagiela, Dr. Theodore Jastak	Limited to 40	TBA	GPs Hygienists	Dr. Malcolm Williamson Jane M. Wong (604) 228-2627
Continuing Dental Education University of British Columbia, 105 - 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	An Update in Dental Hygiene Practice	Dental Hygiene	May 5 to 9 (Inclus.)	Lecture Demo. Participation	Bonnie Craig & Wendy Halowski	Limited to 16	\$400	Hygienists	Dr. Malcolm Williamson Jane M. Wong (604) 228-2627
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Continuing Dental Education University of British Columbia, 105 - 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Contemporary Periodontology	Periodontics	June 28	Lecture	Dr. Marvin P. Levin	Open	\$95 DDS \$50 Aux.	GPs Specialists Assistants Hygienists	Dr. Malcolm Williamson Jane M. Wong (604) 228-2627



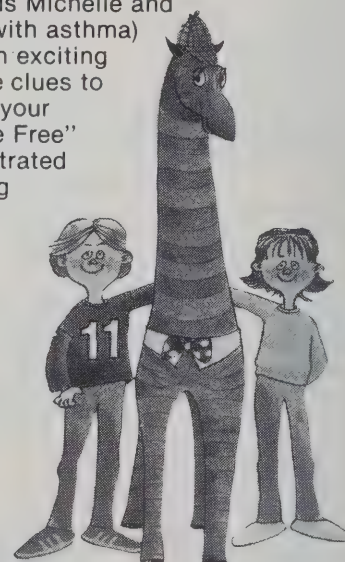
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Clinical Features

ROOT AMPUTATION AND HEMISECTION

INDICATIONS, TECHNIQUE AND RESTORATION

Eugene Kryshalskyj, DDS, MSc

Root amputation requires an interrelated multi-disciplinary approach towards treatment, encompassing the realms of endodontics, periodontics and prosthodontics. Since the treatment often becomes complicated, the clinician should be very critical towards case selection in order to ensure successful therapy. A synopsis of the major areas of concern is provided as a guideline.

Indications:

- 1) Severe vertical bone loss*
 - 2) advanced furcation invasion*
 - 3) unfavourable root proximity
 - 4) root fracture subsequent to endodontic or restorative procedures
 - 5) endodontic limitations (localized calcified canals or root perforations).
- (* not amenable to osteoplasty or bone grafting procedures).

Contra-Indications:

- 1) Decreased bone support — all roots
- 2) fused roots
- 3) endodontically inoperable canals
- 4) poor root form
- 5) limited prosthodontic possibilities (number and distribution of remaining teeth)
- 6) economics and oral hygiene limitations.

Timing

considerations:

Since radiographic and clinical interpretations of osseous defects are often inconclusive, the final decision for root removal may have to await surgical exposure.^{1,2,3,4} With vital root amputations

most teeth remain asymptomatic for at least 6 months⁵, however, endodontic therapy is recommended before root amputation to circumvent the complication of intrapulpal dystrophic calcification and post-operative tooth sensitivity. Pulpal extirpation alone would fulfill this treatment requirement.

Technique:

- 1) A cross-cut fissure bur or long tapering diamond bur in high speed handpiece is used to separate the root segment (**figures 1a, 2a**).
- 2) The furcation region must be blended smooth to avoid shelf or residual ledge formation (**figure 1b**). If left alone, these areas become sites of future inflammation and trap food debris.
- 3) Occlusal modification is performed to balance the forces of occlusion on the remaining roots (**figure 1b**). (reference 6 was helpful in the preparation of the figures)

Restorative concerns:

- 1) Soft tissues are stable after 6-8 weeks⁷
- 2) crowns are advisable to decrease risk of tooth fracture⁸ (**Figures 3, 4**)
- 3) splinting is not always necessary for single tooth treatments where adjacent teeth are present
- 4) crowns should receive an undercontoured embrasure space and narrowed occlusal table (buccal of maxillary molars and lingual of mandibular molars) as demonstrated in **figures 1c** and **2c**^{1,2,8,9,11}. The crown margins must encompass the furcation area.

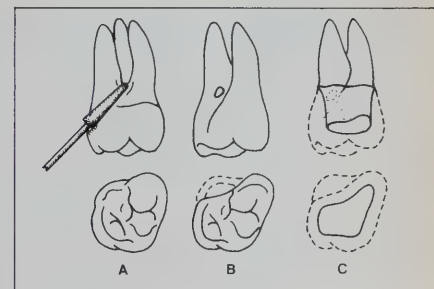


Figure 1 Disto-buccal root amputation of the maxillary molar
a initial approach
b occlusal table modification, and blending-smoothing of the furcation region
c prosthetic reduction of tooth structure with occlusal table modification in mind. Crown margins extend into, and encompass the furcation areas.

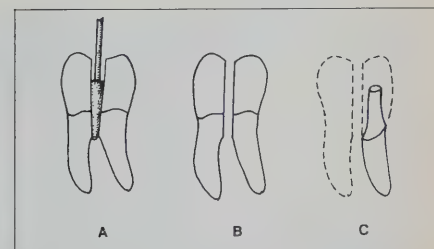


Figure 2 Hemisection of the mandibular molar
a initial approach
b the tooth preparation should be made precisely through the furcation region in order to avoid shelf creation and residual ledge formation
c prosthetic reduction of tooth structure simulating that of a bicuspid tooth, crown margins must encompass the furcation region.

Discussion

Figures 3 and 4 depict two different applications of root amputation and hemisection therapy. Case selection and successful management depends on an appreciation for the limitations and applications of this treatment modality. Of interest, most failures of root amputated teeth occur within five years for reasons other than inflammatory periodontal disease^{10,11}. Root fracture appears to be the main cause of failure, primarily affecting hemisected mandibular molar teeth following extensive multi-unit prosthetic reconstruction¹⁰. The most successful results are achieved when only one of the buccal roots of maxillary molars are amputated¹⁰, or hemisected mandibular molars are used as abutments for small bridges¹¹. In any case, maintenance of a high standard of plaque control and restoration of a stable occlusion are most important in order to achieve any degree of success with root amputation therapy.

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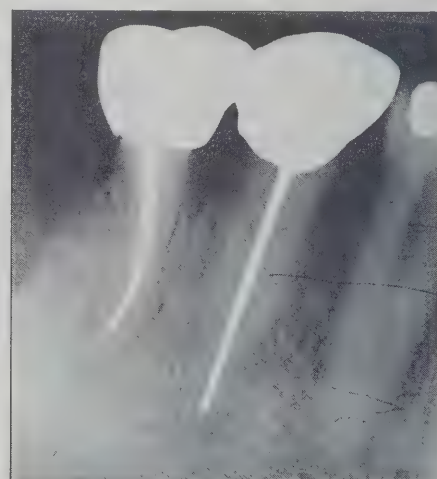
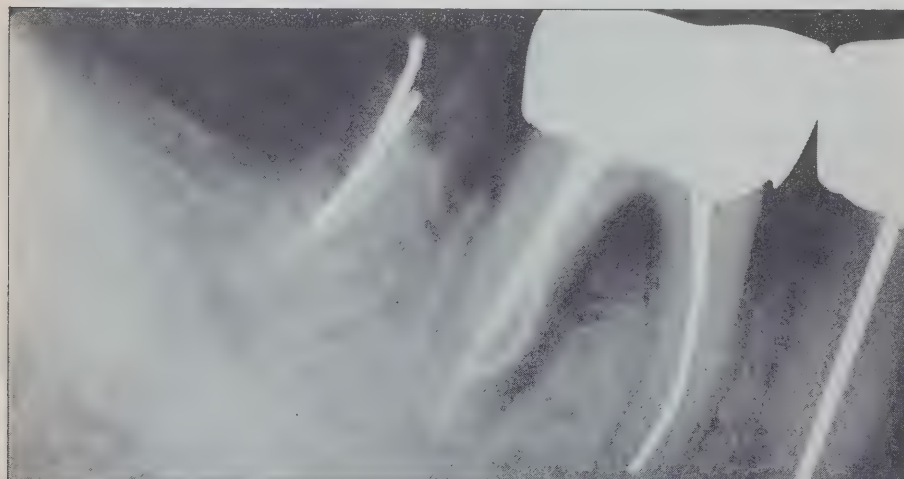


Figure 3 Mandibular molar distal root hemisection due to root fracture subsequent to endodontic and prosthodontic treatment a) before b) 6 months after distal root removal and subsequent splinted crowns on the second bicuspid & mesial molar root. The root in area 47 was also extracted.

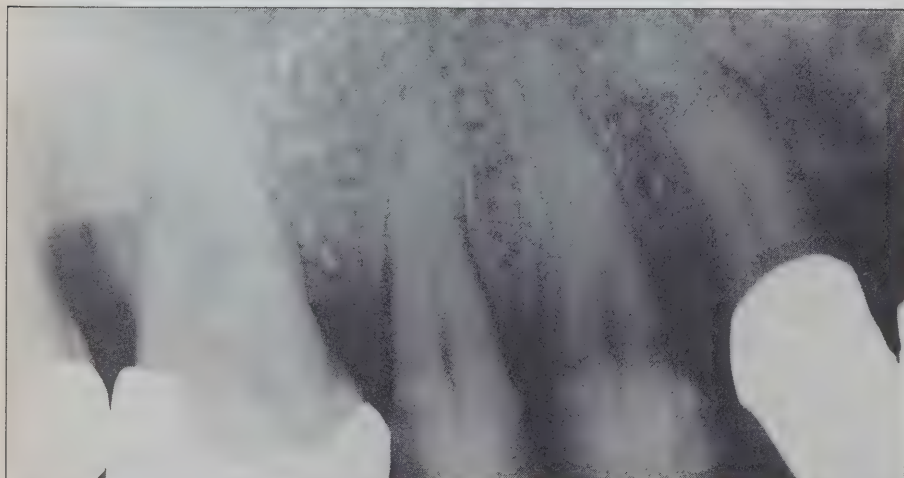


Figure 4 Maxillary molar disto-buccal root amputation due to a root proximity problem and furcation involvement a) before treatment b) 6 years later following endodontic and prosthetic therapy.

AN UNCOMMON ADVERSE EFFECT FOLLOWING BOLUS ADMINISTRATION OF INTRAVENOUS DEXAMETHASONE

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Vancouver, B.C.
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ABSTRACT

Dexamethasone sodium phosphate (DSP), a high potency glucocorticoid, is useful for various endocrine, traumatic, rheumatic, and inflammatory disorders. Side effects are due to the glucocorticoid activity of dexamethasone, however, one unusual and uncommon adverse reaction was discovered in patients receiving IV DSP at the U.B.C. Health Sciences Centre Hospital.

The adverse reaction following IV bolus administration of DSP was severe and transient pruritis, tingling or prickling, and burning sensations in the perineum. A literature review uncovered only a few instances of the similar reactions occurring with IV administration of corticosteroids.

A three-month retrospective chart review revealed 17 surgery patients who received IV DSP as a bolus injection. Six of the 22 patients (all women) reported the adverse reaction and described it as having a rapid onset and a short duration of 30 seconds to two minutes. The mechanism responsible for these reactions is unclear but it would appear that resolution of the problem can be attained by infusing a diluted solution of DSP over a period of 15-30 minutes.

SOMMAIRE

Le phosphate sodique de dexaméthasone (PSD) est un glucocorticoïde très puissant qu'on utilise pour traiter des troubles endocriniens, des traumatismes, des affections rhumatismales et des inflammations de toutes sortes. Malheureusement, l'action

glucocorticoïde de la dexaméthasone entraîne des effets secondaires dont l'un est tout à fait inhabituel et extrêmement fâcheux. On en a fait l'expérience au Health Sciences Centre Hospital de l'Université de la Colombie-Britannique après avoir administré à des patients du PSD par voie intraveineuse.

En effet, on a alors observé des troubles sérieux, c'est-à-dire des démangeaisons passagères sous forme de fourmillements ou de picotements ainsi que des sensations de brûlure au périnée. En révisant les articles publiés sur le sujet, on a découvert seulement quelques cas où il y a eu réaction similaire après l'administration de corticostéroïde en bolus.

En étudiant les dossiers de patients, on a compté au cours d'une période de trois mois 17 cas de chirurgie où il y avait eu injection de PSD en bolus. Six de ces 22 patientes (toutes des femmes) ont eu des troubles qui se sont traduits par une attaque soudaine qui a duré de 30 secondes à deux minutes. On comprend mal le mécanisme qui régit ces troubles, mais il semble qu'on puisse les éliminer en infusant aux patients une solution diluée de PSD durant une période de 15 à 30 minutes.

INTRODUCTION

Dexamethasone sodium phosphate* is a high-potency, long-acting glucocorticoid virtually devoid of mineralocorticoid activity.¹ It is indicated in the treatment of various disorders including neurologic, dermatologic, collagen-vascular, and

rheumatic diseases.¹ In our hospital, it is widely used as an anti-inflammatory in oral surgery. However, the use of dexamethasone sodium phosphate (DSP) is not without adverse effects. Adverse reactions can occur with both short or long term therapy. Numerous adverse effects that can be attributed to glucocorticoid administration involve ophthalmic, musculoskeletal, and the endocrine-metabolic systems.¹

This report will describe an adverse drug reaction (ADR) observed with intravenous (IV) bolus administration of DSP in six patients undergoing oral surgery during a three-month period. The occurrence of this reaction has not been extensively reported in the literature.

METHODOLOGY

Nursing staff reported that patients had complained of severe, transient vaginal and anal itching during DSP administration while having oral surgery procedures. Patients who received parenteral DSP were identified from computerized pharmacy records for the three month period January 1, 1984 to March 31, 1984. A retrospective chart review was performed to determine the number of patients who experienced such adverse effects.

RESULTS

For the three-month period, 28 patients received parenteral DSP. This group consisted of 21 female and seven male patients. Five patients received intramuscular (IM) DSP only while one additional patient received both IM and IV DSP during the same course of therapy. Twenty-two

*Hexadrol-Organon

patients were given DSP by the IV route only. Of the IV only group, 17 (77.3 per cent) of the 22 patients were admitted to the oral surgery service, four (18.2 per cent) to medical service and one (4.5 per cent) to vascular surgery. Two (11.8 per cent) of the oral surgery patients were males and the remaining 15 (88.2 per cent) were females.

Six of the 22 patients (27.3 per cent) experienced perineal burning and itching and all were female. Characteristics of this group are shown in **Table I**. All these patients had received the DSP as an undiluted IV bolus. Five patients reported reactions to a 12 mg dose and one patient to a 10 mg dose (**Table II**). These six patients received multiple doses of IV DSP, yet four of the six patients experienced vaginal and anal burning and itching only once and the other two patients reported their adverse reaction twice following two separate injections.

All patients described the reaction as having a rapid onset and a short duration of 30 seconds to two minutes (**Table III**). One patient reported that her adverse reaction stopped immediately once the bolus injection had finished.

Descriptions of the ADRs were recorded by nurses and charted in the nurses' notes

section of the patients' health record. None of the attending physicians or oral surgeons had reported the patient complaints.

DISCUSSION

Perineal burning and itching was reported by six female patients undergoing oral surgery procedures following the IV bolus injection of DSP. This represented an incidence of 27.3 per cent as determined by a retrospective chart review. A criticism of a retrospective chart review to document an ADR is that it measures record-keeping. This is a valid criticism in this situation because one of the principle investigators (D.A.) was told of two additional female patients who experienced perineal burning and itching. However, when their health records were reviewed, no documentation was found. Thus, the reported incidence of 27.3 per cent is an underestimation of the true incidence. If two additional undocumented cases are included, the incidence is increased to 36.4 per cent. All documented cases in this review occurred in females, although this ADR has been reported in males.^{2,3,4}

A computerized Medline literature search of the past 14 years yielded four reports of similar reactions, two involving DSP, one

involving hydrocortisone disodium phosphate and one involving prednisolone phosphate.

Czerwinski and co-workers,² in a double-blind study of 60 normal adult volunteers, infused their subjects with 2.0 mg/kg of DSP or equivalent volume of diluent. Thirty volunteers received IV DSP in doses ranging from 100 mg to 196 mg using one of three different infusion rates. Twenty-two subjects (14 males, eight females) who received DSP as a two-minute infusion complained of itching, burning or tingling within 15 seconds of the start of the infusion, primarily in the anogenital area. The sensations were short-lived, stopping with the end of the infusion or "within minutes" afterward. An additional eight subjects received their 2 mg/kg dose of DSP diluted in 250 ml of normal saline and infused over either 30 minutes or 60 minutes. The authors report that of four receiving DSP over 30 minutes, two complained of anogenital itching and burning five to 15 minutes after the infusion started. The symptoms subsided however within seven minutes despite the infusion continuing. Three of the four who received the 60 minute DSP infusion experienced mild transient perineal paresthesias lasting less

TABLE I

Patient Characteristics

PATIENT	AGE (YR)	WGT (KG)	OPERATIVE PROCEDURE
1	54	64.5	Right TMJ implant, arthroplasty and meniscectomy
2	29	63.4	Bilateral C-type mandibular osteotomy
3	21	58	Bilateral sagittal mandibular osteotomy with internal screw fixation; extraction of 4 third molars
4	66	78.8	Mandibular vestibuloplasty with palatal mucosal grafts
5	35	52.2	Bilateral sagittal split mandibular osteotomy with internal screw fixation
6	27	52	Bilateral sagittal split mandibular osteotomy with internal screw fixation, bilateral anterior mandible implants and augmentation of anterior mandible

TABLE II

Characteristics of Dexamethasone Adverse Reactions

PATIENT	DOSE	NUMBER OF DOSES GIVEN	NUMBER OF ADR
1	8 mg (0.124 mg/kg)	1	0
	12 mg (0.186 mg/kg)	3	2
2	12 mg (0.189 mg/kg)	7	1
3	12 mg (0.206 mg/kg)	5	1
4	12 mg (0.152 mg/kg)	7	1
5	10 mg (0.191 mg/kg)	2	1
	12 mg (0.229 mg/kg)	4	0
6	10 mg (0.192 mg/kg)	2	0
	12 mg (0.230 mg/kg)	5	2

TABLE III

Description of Dexamethasone Adverse Reactions

PATIENT	NUMBER OF ADRs	ADVERSE REACTION OCCURRED WITH	DESCRIPTION OF ADR
1	2	2nd dose 3rd dose	Severe vaginal burning Severe vaginal burning lasting 2 minutes
2	1	2nd dose	Anal and vaginal itching
3	1	2nd dose	"Vaginitis"
4	1	3rd dose	Perineal itching lasting 30 seconds
5	1	1st dose	Perineal itching
6	2	3rd dose	Vaginal burning stopping once drug administration finished
		4th dose	Vaginal burning stopping once drug administration finished

than one minute at some point during drug administration. The sex of the patients who reported anogenital symptoms with the 30 minute or 60 minute infusions was not stated. No volunteer receiving the diluent experienced perineal symptoms regardless of infusion time.

Rhea³ reported his reaction to an IV bolus dose of 100 mg DSP that was administered over 60 seconds or less. He describes an almost immediate onset of a burning, itching, prickly sensation over his face, neck and arms. The sensation spread throughout his body becoming more pronounced in the groin, axilla and gluteal crease. These symptoms subsided within two to three minutes. Smaller injections of 16 mg decreasing to none over a 10 day period did not bring about a recurrence of the sensations. The doses in mg/kg were not stated.

The perineal symptoms described above, however, do not occur only with dexamethasone. Barltrop and Diba⁴ reported on four asthmatic children (three males, one female) who experienced "perineal discomfort" after receiving IV hydrocortisone disodium phosphate. Doses ranged from 10 mg to 100 mg. Subsequent IV injections of hydrocortisone hemisuccinate in one child (a male) were uneventful. In two others (one male, one female), subsequent doses of hydrocortisone disodium phosphate were administered as an IV infusion in 30 ml of dextrose-saline without recurrence of the adverse effect. The doses in mg/kg were not stated.

Little and de Wardener⁵ administered 40 mg of prednisolone phosphate IV to 21 adult subjects (nine males, 12 females) as part of a protocol studying urinary white cell excretion rate in controls and in patients with glomerulonephritis or pyelonephritis. The authors report that the only side effect

of the steroid injection was a "transient, mild, generalized tingling sensation for about half a minute, which often localized in the perineum." The authors do not state how many subjects experienced this side effect, how many were male or female, the dose in mg/kg, or at what rate the prednisolone phosphate was administered.

The mechanism responsible for these reported reactions is unclear. It may be due to the phosphate salt as perineal symptoms have been reported to occur after IV administration with three different glucocorticoid products (hydrocortisone, prednisolone, dexamethasone). The role of preservatives in the product cannot be ignored as a possible factor, especially when larger doses are administered.^{2,3} Multifocal ventricular ectopic beats have been reported after bolus injections of 100 mg and 50 mg DSP to which the preservatives may have contributed.⁶ Certainly the dose is important as 22 of 22 patients in the Czerwinski paper who received a 2 mg/kg bolus injection experienced anogenital symptoms and five of eight patients receiving the same dose as a 30 or 60 minute infusion also reacted.² In our review, the dose ranged from 0.124 mg/kg to 0.230 mg/kg, hence this reaction is not limited to only high dose administration of DSP.

The rate of injection is another contributing factor. A longer infusion time appears to reduce the occurrence of the ADR.⁴ While in this series only female patients admitted to the oral surgery service reported the ADR, and this may be a function of recordkeeping, it appears that both sexes are at risk.^{2,5}

Possible solutions which could resolve this problem would be slower bolus administration over approximately five minutes or infusion of the DSP over a period of 15-30

minutes after dilution in 50 ml of IV fluid. Intravenous sedation may also help in its prevention.

This paper summarizes the reported adverse reactions of six female patients to undiluted bolus injections of DSP. Generalizations cannot be made regarding the true incidence of the ADR because of the small number of patients involved. Fortunately, this ADR is not of a serious nature but its prevention should be pursued for the comfort and mental well-being of the patient.

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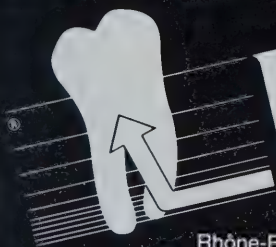
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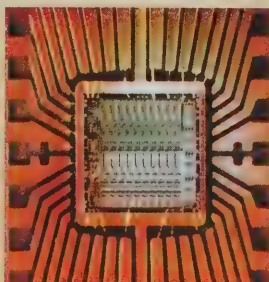
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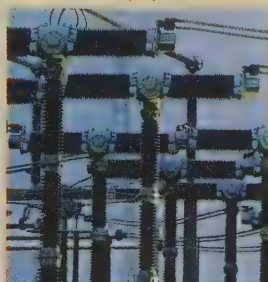
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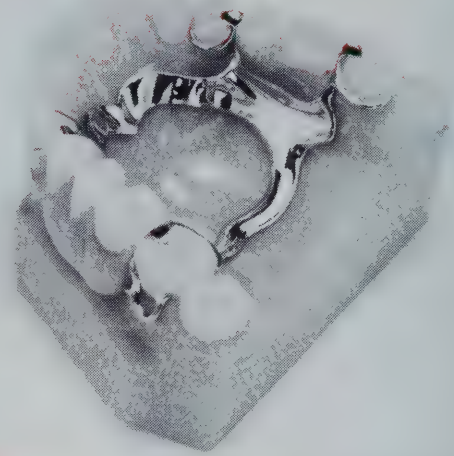




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EFFECT OF SURGICAL TRAUMA AND POLYLACTATE CUBES AND GRANULES ON THE INCIDENCE OF ALVEOLAR OSTEITIS IN MANDIBULAR THIRD MOLAR EXTRACTION WOUNDS

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ABSTRACT

A clinical study measuring the effects of tissue trauma on wound healing in human mandibular third molar extraction wounds is presented. In conjunction with this examination, the effectiveness of a biodegradable, polylactic acid, surgical implant in reducing the incidence of alveolar osteitis in such wounds was investigated.

The incidence of dental extraction wound failure (alveolar osteitis) was directly proportional to the amount of trauma delivered to the wound and was significantly reduced in those wounds treated with polylactate surgical dressings.

SOMMAIRE

On a effectué une étude clinique pour évaluer les conséquences des traumatismes tissulaires pendant la guérison qui suit l'extraction de la troisième molaire de la mandibule chez les humains. Tout en faisant cette étude, on a cherché à déterminer l'efficacité d'un implant chirurgical avec un acide polylactique biodégradable afin de réduire l'incidence de l'ostéite alvéolaire dans ces blessures.

L'incidence des échecs (ostéite alvéolaire) lors de ces extractions a été directement proportionnelle à la quantité de traumatismes infligés à la blessure et a été remarquablement réduite lorsque les blessures ont été traitées avec des pansements chirurgicaux contenant du polylactate.

INTRODUCTION

Chances for any wound healing by primary intention are inversely proportional to the amount of trauma delivered to it prior to final closure.^{1,2} Nowhere is this more dramatically demonstrated than in the mandibular third molar extraction site. Here, wound failure (alveolar osteitis) rates of 10-20 per cent are common.³ The relationship between surgical trauma and successful wound healing is tacitly recognized in the common clinical classification of third molar surgical difficulty; soft tissue impaction, partial bony impaction, complete bony impaction. Since this method of classification is based strictly on preoperative data and interpretations, it fails to account for those difficult soft tissue impactions which receive more surgical trauma than some less difficult complete bony impactions. As a result, this traditional method of third molar surgical classification is of questionable value in predicting which third molar wounds will be more likely to heal by primary intention and which ones will be more susceptible to developing localized osteitis.

Data presented in this report on the incidence of alveolar osteitis are based on a measurement of extraction wound surgical trauma more accurate than the traditional, prospective classification noted above. A second purpose of this paper is to present data describing the effectiveness of polylactate dressing cubes and granules in the prevention of alveolar osteitis.

MATERIALS AND METHODS

This investigation was limited exclusively to the mandibular third molar extraction wound. Patient selection for Phases I and II was based on their having bilaterally impacted third molars which were nearly identical radiographically, and of equal surgical difficulty. Patients were excluded from Phases I and II of the study if they had a positive medical history for any bleeding diatheses or use of any medications which affected normal clotting mechanisms; specifically aspirin and birth control pills. Patient selection for Phases III and IV followed the same criteria with the exceptions that unilateral third molar surgeries were accepted and, in the case of bilateral mandibular third molar surgery, the procedures did not have to be of identical degrees of difficulty.

Two experimental variables were simultaneously examined in this investigation. One was the relationship between incidence of alveolar osteitis and the length of time the wound was exposed to surgical trauma. The other variable tested the effect of biodegradable, polylactate granules/cubes on the incidence of alveolar osteitis.

Every procedure in all four phases of the study was timed to the nearest 1/10th minute. Timing began with start of incision and stopped as soon as the surgeon declared final closure completed. The polylactic acid cubes and granules described in the study are supplied by Osmed Incorporated of Costa Mesa, California, under the trade name of

Drilac Cubes and Drilac Granules. In cube form these dressings resemble a sponge and have interconnected, randomly positioned, shaped and sized voids extending throughout.³ Each void communicates with all others and with all points on the surface of the implant. These sponge-like cubes maintain their structural integrity even when saturated with fluid blood. In another form, the polylactate is prepared as granules randomly sized between 1-3 millimetres in diameter. The structure of interstices

described above is maintained within each of the granules. The cube form of the material requires cutting and shaping with a scalpel prior to its insertion in the wounds.^{3,4} The granular form is supplied in a disposable syringe and is injected (dry) directly into the extraction wounds. Whenever used, the polylactic acid (PLA) dressings were placed in the wounds immediately after tooth extraction.

In Phases I and II, each patient served as his/her own control with the PLA material

being applied to one of the mandibular surgery sites and the other being left to heal as usual. Records were kept for each of the three traditional levels of difficulty in third molar surgery and placement of the PLA dressing was carefully alternated from side to side in succeeding patients within each category of difficulty. Operators always began surgery on the mandibular left side. This was done in consideration of the surgeon's natural preference for working on one side or the other and also in consideration of the learning that occurs when bilaterally identical surgical problems are being addressed in the same operation. Since one hypothesis of this study considers the incidence of alveolar osteitis to be directly proportional to the amount of trauma a wound sustains, it seemed important to test the PLA dressings equally in wounds the surgeons found more difficult as well as in those which benefited from the surgeon's natural preferences or from information just gained by operating an identical surgical problem. In Phases III and IV, however, all mandibular third molar wounds were treated with PLA dressings.

The first dressings to be clinically tested were sponge-like cubes composed of 4.0 per cent polylactate by volume (Phase I). Although these dressings performed well in the wounds, they were fragile and difficult to handle surgically. When Phase I was completed, the cubes were changed to incorporate more polymer into the implant. Phases II and III were conducted using cube dressings composed of 6.0 per cent polylactate by volume. This concentration of polymer provided the dressing cubes with considerably more structural stability and allowed for much greater ease of handling. The increase in polymer concentration from 4.0 per cent to 6.0 per cent was the only change applied to the PLA cube implants during the course of the study. The only effect this change had on the dynamics of wound healing was to prolong, somewhat, final hydrolysis and biodegradation of the implanted material. Pore size and architecture of the 4.0 per cent and 6.0 per cent cubes were identical. The granules used in Phase IV were produced from blocks consisting of 6.0 per cent polylactate.

No change in the surgeons' usual third molar extraction technique was required other than placement of the PLA dressing material in experimental wounds. All patients were observed on the second to fifth postoperative day and again on the seventh to tenth postoperative day. They were instructed to contact the surgeon at any time if unexpected pain or other complication developed. Also, all patients were contacted by the surgeons' office staffs the day after surgery to determine if postoperative events

TABLE 1

Demonstration of statistical analysis technique used to determine statistical significance for wound failure experience in Phases I, II and III.

STATISTICAL ANALYSIS (Polylactate Cubes)					
(Phase I)					
Experimental Side Wound Failures	4	95	99	Experimental Wound Failure Rate = 4.0%	
Control Side Wound Failures	18	81	99	Control Wound Failure Rate = 18.2%	
	22	176	198		
$\chi^2 = 10.23$					
Significant at $p = .001$ (single tailed)					
$p = < .001$					
(Phase II)					
Experimental Side Wound Failures	1	128	128	Experimental Wound Failure Rate = 0.78%	
Control Side Wound Failures	23	105	128	Control Wound Failure Rate = 17.97%	
	24	232	256		
$\chi^2 = 22.253$					
Significant at $p = .001$ (single tailed)					
$p = < .001$					
Combined Study (Phases I, II and III)					
Experimental Side Wound Failures	12	415	427	Experimental Wound Failure Rate = 2.8%	
Control Side Wound Failures	41	186	227	Control Wound Failure Rate = 18.1%	
	53	601	654		
$\chi^2 = \frac{654 (12 \times 186 - 41 \times 415)^2}{(417) (227) (53) (601)}$					
$\chi^2 = 46.29$					
$p = < .001$					
Significant at $p = .001$					

and the patients' general condition were progressing normally. Postoperatively, the surgical sites were irrigated and evaluated by visual and tactile inspection. The patients were questioned concerning postoperative bleeding, pain, drainage and loss of PLA material from the experimental wounds. Because this study was conducted entirely in private practice settings, all postoperative examinations were done by the surgeon who performed the original surgery. Alveolar osteitis was diagnosed by the presence of any one or more of the following:

- 1) Lack of a demonstrable clot accompanied by exposed alveolar bone and pain (control wounds);
- 2) A continuous, dull, aching pain of increasing intensity, with radiation to the preauricular area of the involved side (control and experimental wounds);
- 3) Necrotic polylactic acid material, the removal of which produced an intrabony void, exposed bone and pain (experimental wounds);
- 4) Inadequate control of pain by analgesics;
- 5) Prompt relief of the presenting pain by application of a topical, sedative dressing. Patients developing alveolar osteitis were treated by warm saline irrigations, debridement of the wound and placement of a sedative dressing to relieve the pain. These dressings were replaced at two to three day intervals until there was sufficient healing to obviate their use.

RESULTS

Two hundred and twenty seven patients participated in Phases I and II of the study. Of the 227 control wounds in this group, 41 showed wound failure (18.1 per cent). The 227 experimental wounds (treated with PLA cube dressings) had five wound failures (2.2 per cent).

One hundred and seventeen patients, with a total of 200 mandibular third molar wounds, were studied in Phase III (not all of these cases were bilateral surgeries). All of these 200 wounds were treated with the PLA cubes and seven of them developed symptoms of alveolar osteitis (3.50 per cent).

In Phases I, II and III of the study, 427 wounds received the PLA cube implants. Of these 427 PLA treated wounds, 12 experienced wound failure (2.8 per cent).

One hundred and fifty-seven patients, with a total of 215 mandibular third molar wounds, were studied in Phase IV. As in Phase III, not all of these cases were bilateral. All of these 215 wounds were treated with PLA granules and seven of them developed symptoms of alveolar osteitis (3.26 per cent).

The remaining data generated by this study are presented in **Figure 1** and **Tables 1-4** and are, for the most part, self-

TABLE 2

Incidence of alveolar osteitis associated with traditional degree of difficulty classifications for mandibular third molar surgeries.

CONTROL WOUNDS (Phases I & II Combined)	TOTAL WOUNDS	WOUND FAILURES	PERCENT WD. FAILURE RATE
Soft Tissue Impaction	75	8	10.7%
Partial Bony Impaction	78	8	10.3%
Complete Bony Impaction	74	25	33.8%
Total	227	41	18.06%
EXPERIMENTAL WOUNDS (Phases I, II, III & IV Comb.)			
Soft Tissue Impaction	239	5	2.1%
Partial Bony Impaction	190	8	4.2%
Complete Bony Impaction	153	5	3.3%
Total	582 *	18	3.09%

* Not included in this total are 34 surgical extractions of erupted mandibular third molars from Phases I, II and III and 26 surgical extractions of erupted mandibular third molars from Phase IV.

TABLE 3

Comparison of control vs. experimental wound healing experience for the study as a whole. Data organized according to duration of surgical procedure (measured in minutes).

POLYLACTATE CUBES Control wounds (Phases I and II Combined)					
0 - 1.99 Min.	2.0 - 3.99 Min.	4.0 - 6.99 Min.	7.0 - 9.99 Min.	10.0 + Min.	
53 wounds	57 wounds	63 wounds	39 wounds	15 wounds	
5 failures	8 failures	14 failures	10 failures	4 failures	
9.4% wound failure rate	14.0% wound failure rate	22.2% wound failure rate	25.6% wound failure rate	26.6% wound failure rate	
POLYLACTATE CUBES Experimental Wounds* (Phases I, II and III Combined)					
0 - 1.99 Min.	2.0 - 3.99 Min.	4.0 - 6.99 Min.	7.0 - 9.99 Min.	10.0 + Min.	
126 wounds	121 wounds	82 wounds	41 wounds	57 wounds	
1 failure	6 failures	1 failure	3 failures	1 failure	
0.79% wound failure rate	5.0% wound failure rate	1.2% wound failure rate	7.3% wound failure rate	1.8% wound failure rate	
* Included in this tabulation are 34 erupted mandibular third molar surgeries which required mucosal flap production, bone removal and/or sectioning for extraction.					
POLYLACTATE GRANULES Experimental Wounds** (Phase IV)					
0 - 1.99 Min.	2.0 - 3.99 Min.	4.0 - 6.99 Min.	7.0 - 9.99 Min.	10.0 + Min.	
52 wounds	60 wounds	37 wounds	18 wounds	48 wounds	
0 failures	0 failure	2 failures	2 failures	3 failures	
0% wound failure rate	0% wounds failure rate	5.4% wound failure rate	11.1% wound failure rate	6.25% wound failure rate	
** Included in this tabulation are 26 erupted mandibular third molar surgeries which required mucosal flap production, bone removal and/or sectioning for extraction.					

explanatory. However, several prominent features of the data require further elaboration. First, use of either the cube or granular form of PLA surgical dressing material substantially reduced the incidence of mandibular third molar alveolar osteitis in all phases of the study and in all categories of surgical difficulty. Results for each parameter of the study (Phases I, II and III) reached statistical significance at a "p" value of less than 0.001 (Table 1). Second, use of polylactic acid surgical dressings in either

granular or cube form reduced the incidence of alveolar osteitis to less than 4.0 per cent in all cases, regardless of consideration for the traditional classification of third molar difficulty. This is particularly significant when compared to the incidence of alveolar osteitis in the control wounds. Here, results more closely paralleled the traditional degree of difficulty categories with a 10.7 per cent rate of alveolar osteitis noted in soft tissue impactions and a 10.3 per cent rate for partial bony impactions, whereas

the complete bony category had a 33.8 per cent incidence of localized osteitis (Table 2).

The data in Figure 1 and Table 3 are organized according to length of time of surgery and compare control vs. experimental wound healing experience. It is clearly shown by the control wound data that the incidence of mandibular third molar alveolar osteitis is directly proportional to the length of time a wound is exposed to surgical trauma. Experimental wounds, protected by either PLA cubes or granules, also showed some alveolar osteitis, but far fewer instances than the control wounds. Also, the pattern of experimental side alveolar osteitis seemed to bear no relationship to the duration of surgical trauma or to traditional, preoperative, classifications for surgical difficulty (Table 2 and Figure 1).

Data in Table 4 show the wound healing experience of 38 patients from Phases I and II who had alveolar osteitis in the control wounds and normal healing in the experimental wounds. Of the 43 patients in Phases I and II experiencing wound failure, three cases of simultaneous bilateral wound failure were eliminated from this grouping along with two cases of experimental wound failure related to mechanical instability with prototype PLA cubes. The 38 remaining cases of control side alveolar osteitis represent 88 per cent of all wound failure cases in Phases I and II. The control wounds of the 38 patients had the same pattern of alveolar osteitis with respect to durations of surgery as did control wounds in the study as a whole; i.e. wound failure rates increased in proportion to the duration of surgical trauma delivered to the wounds. Furthermore, 74 per cent of the control wound failures in this patient group occurred in procedures of 4.0 minutes or more.

Another feature of the data in Table 4 concerns the effect of PLA dressing cubes on wound healing experience. It seems clear from these data that presence of PLA dressings in this type of wound protects the initial blood clot and subsequent developing granulation tissue from destructive effects produced by significant tissue trauma. It should be noted that 29 of the 38 protected experimental wounds (76 per cent) had surgical procedures of 4.0 minutes or more and still healed by primary intention.

Of the 200 wounds in Phase III that received the PLA cubes, seven developed alveolar osteitis. It is important to note that four of these seven cases of alveolar osteitis occurred in two patients. In Phase I there were two such patients and the Phase II group had one patient with bilateral simultaneous alveolar osteitis. Of the ten wounds involved in these five patients only three experienced surgery times of 4.0 minutes

TABLE 4

Review of surgical times in 38 patients from Phases I and II each of whom experienced wound failure on the control side and normal healing on the experimental (PLA) treated side.

COMPARATIVE TIMES OF 38 WOUND FAILURE CASES FROM PHASES I AND II (All Times Recorded In Minutes)						
Soft Tissue Impactions		Partial Bony Impactions		Complete Bony Impactions		
Control Wound	Experimental Wound	Control Wound	Experimental Wound	Control Wound	Experimental Wound	
$T_{EX} > T_C$	3.2	4.4	6.9	30.0	5.2	15.0
	2.0	2.5	4.0	5.5	5.0	14.0
	1.0	2.5	2.4	3.0	9.0	12.0
	0.5	2.0	2.0	2.3	8.0	10.0
	1.0	1.9			4.5	9.5
$T_{EX} = T_C$					7.3	9.4
					8.5	9.0
					7.0	8.5
					4.5	8.0
					6.0	6.2
					5.6	6.1
					3.1	4.1
			2.0	2.0	15.0	15.0
					12.0	12.0
					10.0	10.0
$T_{EX} < T_C$	2.5	1.7	9.3	5.0	21.2	17.1
			5.1	4.0	12.0	9.0
					10.0	8.0
					10.0	7.0
					6.1	5.2
					9.3	4.5
					5.5	2.0
TOTALS						
Control Wounds		Experimental (PLA) Wounds		Comparative Summary		
Less Than 2.0 Min.	= 3	Less Than 2.0 Min.	= 2	$T_{EX} < T_C$	= 22	
2.0 To 4.0 Min.	= 7	2.0 To 4.0 Min.	= 7	$T_{EX} = T_C$	= 6	
4.0 Min. Or More	= 28	4.0 Min. Or More	= 29	$T_{EX} > T_C$	= 10	
	38		38		38	
All Wounds Failed		All Wounds Healed By Primary Intention				

or more. It seems clear that, while tissue trauma is an important factor in determining wound failure, tissue trauma is not the only determinant to wound healing by primary intention.

Total tissue trauma delivered to a wound is the product of trauma intensity and the length of time over which that level of trauma is employed. Obviously, the more surgical trauma delivered to hard and soft tissues of a dental extraction wound, the greater is the risk of wound failure. These data also suggest that any unprotected mandibular third molar extraction wound receiving more than 4.0 minutes of average surgical trauma intensity is at a considerably greater risk of wound failure than comparable extraction wounds exposed to less than 4.0 minutes of average surgical trauma.

DISCUSSION

These data support the theory that alveolar osteitis is the product of postoperative, intrabony ischemia complicated by premature loss of mechanical support provided by a healthy blood clot. All healthy patients bring to the extraction procedure a level of tissue circulation adequate to preserve their preoperative tissues in a healthy condition. Since surrounding periosteum is the primary source of circulation for the mandibular third molar area, the principle of minimal soft tissue separation from bone continues to be of primary importance when we make a serious attempt to prevent postoperative wound failures (alveolar osteitis).

Likewise, meticulous hard tissue instrumentation utilizing minimal amounts of trauma and time is of critical importance if we are to succeed in reducing mandibular third molar wound failures to a minimum.

The examples of bilateral simultaneous wound failure represent a special case. It seems that these patients bring to the procedure such a low level of collateral circulation that they can not tolerate even the most conservative surgical interventions. While much can be done to reduce the incidence of localized osteitis, some expression of the problem will remain in patients with very poor intrinsic collateral circulation.

The data of this study demonstrates that wounds protected with PLA dressings of either the cube or granular form, successfully tolerate considerably longer durations of surgical trauma than do unprotected wounds. While these dressings do not create collateral circulation, they do allow the intrabony wound to take optimum advantage of whatever collateral circulation remains postoperatively. This function is achieved by the PLA dressings' ability to provide the fresh blood clot with a stable support system which keeps the newly formed clot in juxtaposition with surviving collateral circulation. Additionally, PLA

dressings reduce the destructive effects of fibrinolysis by providing a stable and biologically acceptable matrix for future granulation tissue development.^{3,4} In the event the original fibrin clot fails, PLA dressings provide the surviving collateral circulation with an alternative medium for genesis of granulation tissue. In regard to this latter function, the PLA dressings serve as an in vivo tissue culture apparatus. It must be stressed, however, that a stable intrabony matrix is superfluous if the surviving collateral circulation is insufficient to produce granulation tissue in the first place. Meticulously gentle and very conservative soft tissue surgery remain the sine quo non for operating mandibular third molar procedures with a minimum of postoperative wound failures.

The results support four conclusions relative to reducing mandibular third molar wound failure. 1) In unprotected wounds the incidence of alveolar osteitis is directly proportional to the amount of trauma delivered to the wound (as measured by surgical duration). 2) There is no substitute for gentle, meticulous and conservative surgical technique. 3) Surgical manipulations must be administered with dispatch. 4) The polylactic acid surgical dressing material, in

either cube or granular form, substantially reduces the incidence of alveolar osteitis in healthy patients if all other principles of careful surgical technique are observed.

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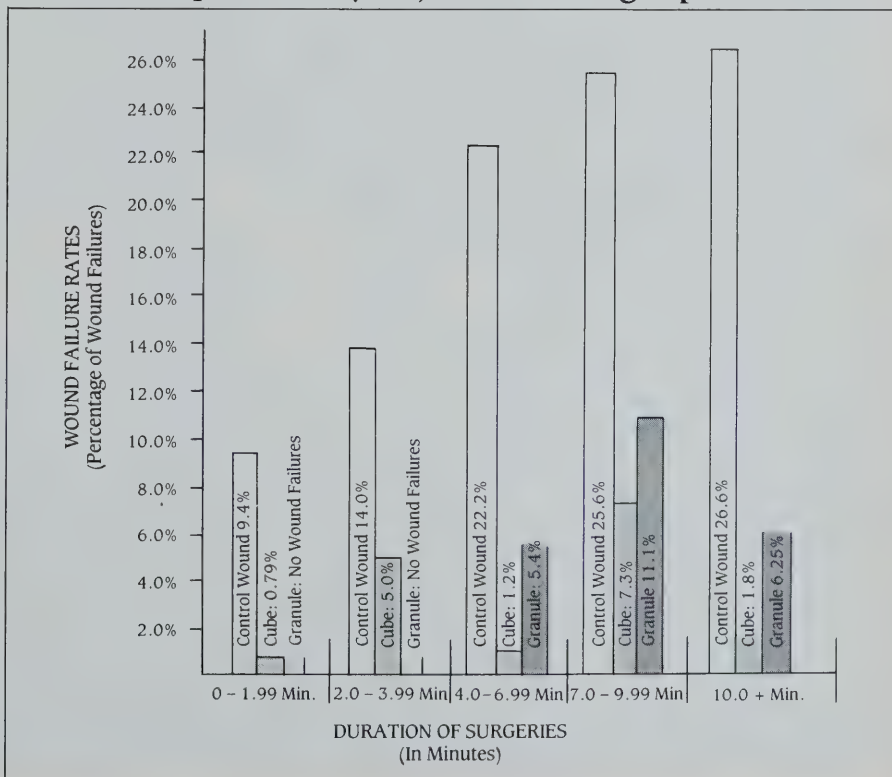
Requests for reprints should be directed to Dr. John H. Brekke.

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FIGURE 1

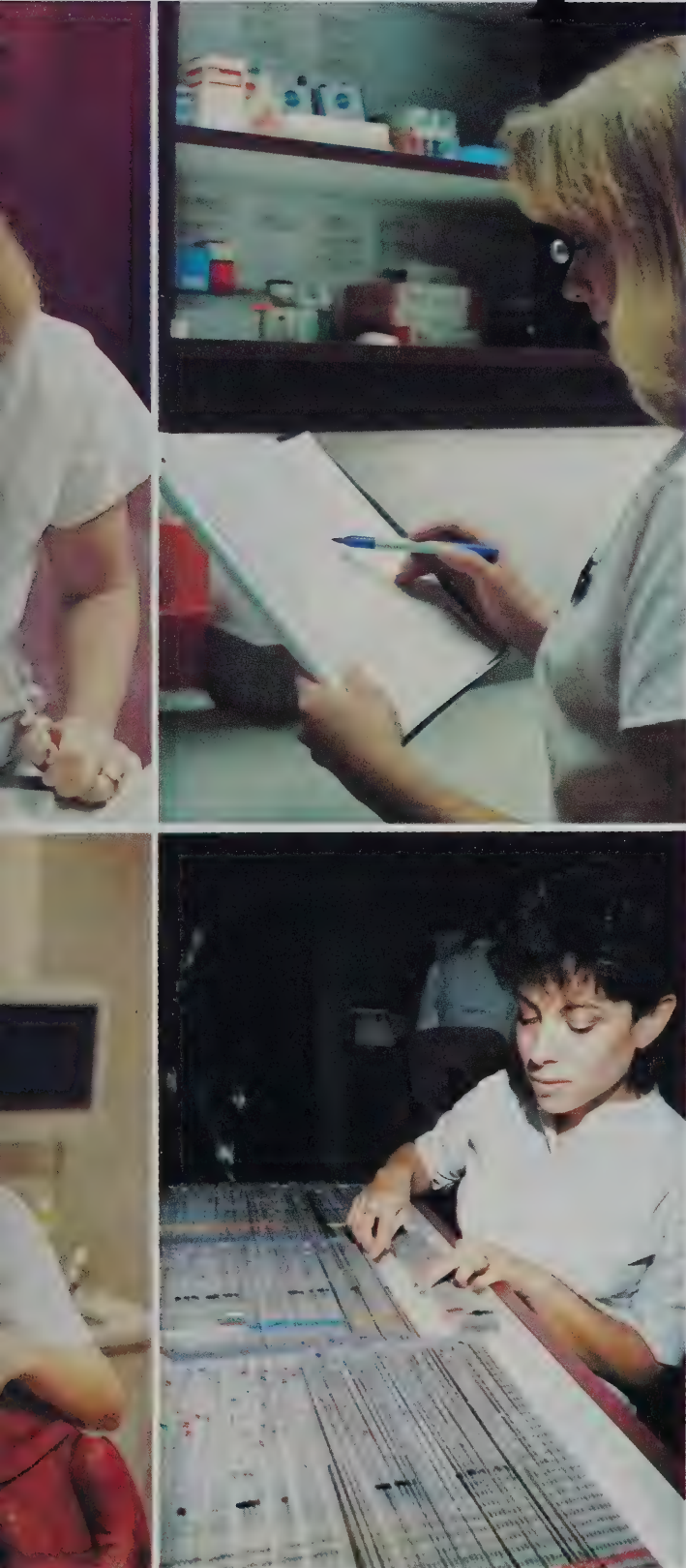
Incidence of alveolar osteitis associated with surgical trauma as measured by surgical duration (minutes). Also, comparison of control vs. experimental (PLA) wound healing experience.



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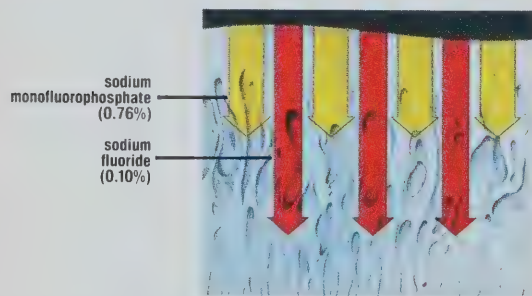
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which demineralized enamel is rebuilt.⁽¹⁻⁴⁾ This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean that these fluorides may work in different ways in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

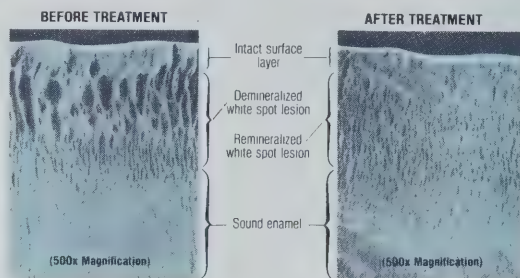
Why these two fluorides remineralize more completely.

It has been postulated that fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Working at different levels, the two fluorides may complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater depth of the lesion than is provided by either fluoride alone.^(5,6)



This more complete remineralization has been demonstrated in laboratory studies⁽⁷⁾ and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

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*Sodium monofluorophosphate (0.76%)

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* Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective dental preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

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DEFINITIVE TREATMENT OF RECURRING REPARATIVE CENTRAL GIANT CELL GRANULOMA A 10-YEAR FOLLOW-UP

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SUMMARY

Controversy still exists as to whether the central giant cell granuloma and the giant cell tumour of bone are two separate entities or are both reactive entities¹⁻² separate from malignant neoplasms of bone, such as osteogenic sarcoma.

The central giant cell granuloma has been seen in individuals of all ages; however, most patients are under 20 years of age³ – females being affected twice as often as males. The central giant cell granuloma may be found in either the maxilla or mandible, but its predilection is for the mandible, especially in the anterior segments. The central giant cell granuloma is a destructive lesion seen as a radiolucency, with smooth and sometimes ragged borders.

Histologically, the central giant cell lesion usually has a loose fibrillar connective tissue stroma, interspersed with proliferating fibroblasts and small capillaries. Multinucleated giant cells are the predominant microscopic feature; however, they are not pathognomonic of the central giant cell granuloma.

SOMMAIRE

Il y a toujours controverse pour savoir si le granulome central à cellules géantes et la tumeur osseuse à cellules géantes sont, oui

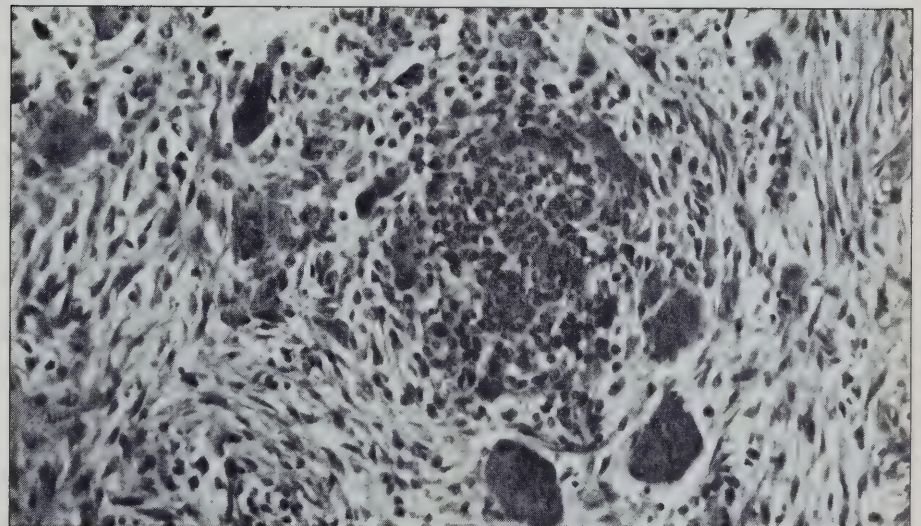


Fig. 3. Histopathology of the lesion. Note the multinucleated giant cells (125 × H & E).

ou non, des entités distinctes ou s'ils sont des entités réactives distinctes toutes les deux des néoplasmes osseux malins comme les sarcomes ostéogènes.

Le granulome central à cellules géantes a été observé chez des sujets de tout âge. Cependant, la plupart avaient moins de 20 ans et on comptait deux fois plus de femmes que d'hommes. Le granulome se retrouve dans les deux mâchoires, mais surtout dans la mandibule et plus particulièrement dans les parties antérieures. Il s'agit

d'une lésion destructive d'une transparence relative aux rayons X avec des bords lisses et parfois effilochés.

Histologiquement, cette lésion possède ordinairement un stroma dont les tissus conjonctifs sont lâches et fibrillaires et qui est parsemé de fibroblastes prolifératifs et de petits capillaires. Les cellules géantes multinucléées constituent la caractéristique microscopique dominante. Toutefois, cette particularité n'est pas exclusive au granulome central à cellules géantes.

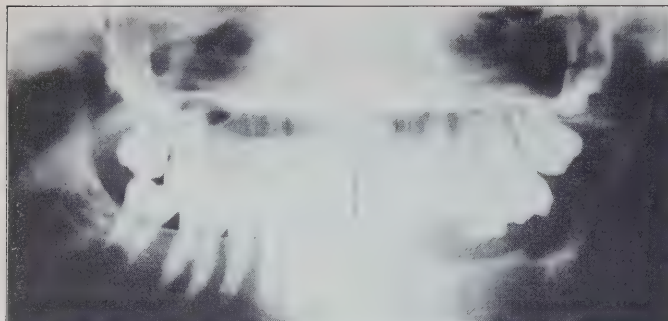


Fig. 1. Preoperative radiograph.

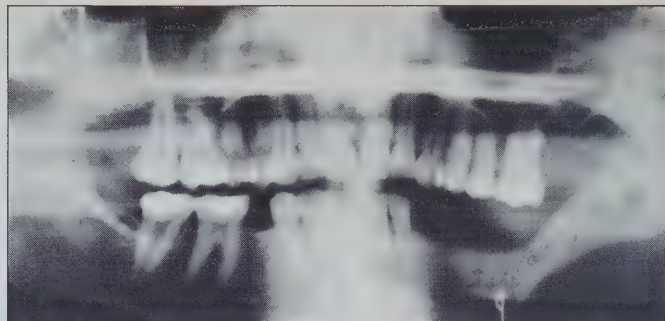


Fig. 2. Graft placement, left mandible.



Fig. 4. Fifteen months post surgery

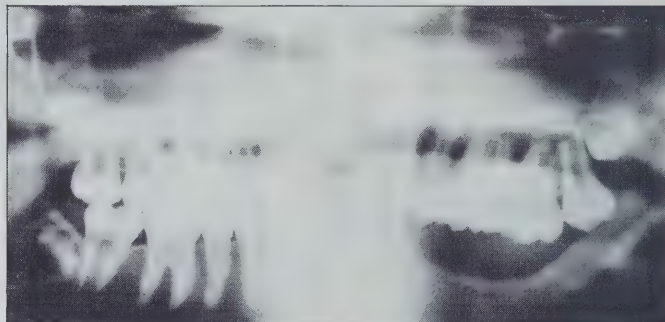


Fig. 5. Ten years post surgery.

CASE REPORT

In September 1973, the patient, a 10-year-old white female, presented with swelling of the left mandible. Radiographically, a lesion extending from the coronoid process and condylar neck of the left mandible anteriorly to the premolar region of the body of the mandible was seen (Fig. 1). The history revealed that in 1970 and 1972, an oral surgeon had resected a lesion from the left mandible. The tissue from the first excision had been reported as a peripheral giant cell granuloma, and that from a much more extensive second lesion was diagnosed as a central giant cell granuloma.

The recurrent swelling was biopsied and reported as a reparative giant cell granuloma. In view of the three occurrences, the decision was made to partially resect the left mandible and replace the resected portion with a rib graft. The patient was therefore admitted to hospital on January 25, 1974. The remainder of her physical examination, blood studies and selective radiographs were within normal limits at that time.

On January 26, 1974, under nasoendotracheal general anesthesia, a submandibular approach was used to resect the left mandible from the first premolar region to the condylar neck. The coronoid process was removed but the condyle was preserved. The resected area of the mandible was replaced with a portion of the left sixth rib (Fig. 2), and the patient was placed in maxillo-mandibular fixation for six weeks. The surgery was well tolerated and uneventful healing occurred.

The histopathology report of the surgical

specimen confirmed previous reports of giant cell reparative granuloma. Microscopically (Fig. 3), the cellular stroma was infiltrated with moderate numbers of polymorphonuclear leukocytes, hemosiderin-laden macrophages and histocytes. Many areas showed large numbers of giant cells with as many as 20 to 30 nuclei present. Some areas of the lesion showed a thin border layer of fibrous tissue with bony trabeculae interspersed, suggesting penetration of the lesion beyond the bony confines.

Long-term radiographic follow-up at one year (Fig. 4) and 10 years (Fig. 5) showed integration and remodelling of the rib graft. Clinically, the mandible showed good range of movement, without deviation upon opening and minimal detectable facial asymmetry.

DISCUSSION

This case history confirms the views that central giant cell granulomas can be highly recurrent lesions with great osteolytic potential for destruction. Enucleation and partial excision of these lesions frequently prove to be inadequate definitive management, with cases eventually requiring hemimandibulectomy with osseous graft reconstruction.

It was evident that this lesion was an entity in itself, and not a manifestation of other osteolytic lesions as seen in Brown's tumour of hyperparathyroidism. Central giant cell granuloma may progress to osteogenic sarcoma, which has a much poorer prognosis and requires more aggressive management.³

SUMMARY

The central giant cell granuloma is an aggressive lesion with high incidence of recurrence and may, on occasion, undergo transformation to osteogenic sarcoma. With these factors in mind, it is apparent that this lesion must occasionally be treated aggressively. Although this does not necessarily mean hemimandibulectomy, enucleation with a wide margin is at least required.

In this case, wide enucleation was unsuccessful and we present a 10-year follow-up of a hemiresected mandible definitely reconstructed with a rib graft; the result of which is very favourable.

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Reprint requests to Dr. F.W. Lovely.

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L'IBUPROFÈNE

* EN POST ET EN PRÉ-OPÉRATOIRE EN CHIRURGIE BUCCALE

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RÉSUMÉ

Résultats de deux études conduites au Département de chirurgie buccale et maxillo-faciale de l'École de médecine dentaire de l'Université Laval sur le contrôle de la douleur post-opératoire avec l'Ibuprofène 400 mgs (motrin) d'une part, et l'administration d'un comprimé d'ibuprofène 400 mgs une heure avant la chirurgie, d'autre part.

SUMMARY

Two studies were conducted at the Department of Oral and maxillo-facial Surgery of the School of Dental Medicine, Laval University, with Ibuprofen 400 mgs (Motrin) as a post operative analgesic, in a doubleblind study compared to ACC 30 and placebo. The second study consisted in the administration of one tablet of Ibuprofen 400 mgs one hour prior to surgery to one half of the patients in this group and placebo to the other half.

Ibuprofen is a proprionic acid derivative with anti-inflammatory analgesic and antipyretic properties that was introduced in Canada in 1973 for the treatment of rheumatoid and osteoarthritis. This drug has proven useful in the treatment of pain following oral surgery, general surgery, dysmenorrhea and musculoskeletal injuries.

In the first study Ibuprofen has been found significantly better than A.C.C. 30 with respect to long term pain intensity, long term degree of relief and the use, in the long term, of supplemental medication.

In the second study, it was found that patients who had received Ibuprofen one hour pré-operatively waited longer before taking the first post operative tablet. However, there was no difference as far as the number of post operative tablets being absorbed or the time in between the absorption of the first and last post-operative tablet.

INTRODUCTION

Au cours de l'année scolaire 1981-1982, une recherche clinique fut menée au secteur de chirurgie buccale et maxillo-faciale de l'École de médecine dentaire de l'Université Laval avec la collaboration de 147 patients ayant subi une chirurgie afin de déterminer l'effet analgésique de l'Ibuprofène en post-opératoire. Cette étude à double insu fut conduite avec l'Ibuprofène 400 mgs, l'AAS, caféine et codeine 30 mgs (292) et un placebo.

L'Ibuprofène (motrin) est un dérivé de l'acide propionique à propriétés anti-inflammatoires, analgésiques et antipyrétiques qui fut mis sur le marché canadien en 1973 pour le traitement de la polyarthrite rhumatoïde et de l'ostéo-arthrite. Bien que la plupart des données obtenues pour ces indications concernent l'effet anti-inflammatoire de l'ibuprofène comparé à celui de différents agents couramment utilisés, il a été constaté que l'efficacité de l'Ibuprofène dans l'arthrite était également due à ses propriétés analgésiques.

L'activité analgésique de l'ibuprofène a été démontrée dans la douleur suite à l'extraction dentaire, à la chirurgie buccale et générale, à la dysménorrhée et aux blessures musculo-squelettiques.

Dans la présente étude, les patients sélectionnés devaient subir l'ablation de dent(s) incluse(s) ou une chirurgie prothétique telle ablation d'exostoses, de tori mandibulaires ou palatins et réduction osseuse de tubérosités: toutes des chirurgies impliquant le relèvement d'un lambeau périoste et une atteinte osseuse, donc une douleur post-opératoire de moyenne à sévère.

Méthodologie

Cette étude était randomisée, parallèle, à l'insu. Les médicaments à l'essai étaient

fournis aux patients en flacons individuels numérotés au hasard et chaque flacon ne contenait qu'un seul comprimé d'un des médicaments aussi assignés au hasard. En outre, chaque patient recevait, en plus du médicament à l'essai, une enveloppe contenant des comprimés de Fiorinal C¹/₄*. Ce médicament complémentaire, dont l'identité est connue (essai ouvert), devait être pris lorsque le soulagement du médicament à l'essai s'avérait être insuffisant ou lorsque cessait l'effet analgésique de ce dernier.

Chaque patient devait prendre le comprimé qui lui était fourni après la chirurgie alors que la douleur était suffisamment grande et était encouragé à ne prendre le médicament-secours qu'en cas de douleur très sévère et quelques heures seulement après l'absorption du premier comprimé.

Dans son rapport, le patient fournissait les renseignements suivants:

a) Intensité de la douleur immédiatement avant la prise du médicament à l'essai. L'intensité de la douleur était quantifiée par le patient sur une échelle de 0 à 9. Zéro: pas de douleur, 1-2-3: douleur légère, 4-5-6: douleur modérée, 7-8-9: douleur sévère.

b) Intensité de la douleur exactement 1, 2, 3 et 4 heures après la prise du médicament à l'essai. Ces évaluations horaires cessaient si le patient avait recours au médicament complémentaire.

c) Heure exacte à laquelle le médicament complémentaire était absorbé.

Le rapport du patient était alors envoyé à l'investigateur par la poste et le patient revu en visite de contrôle de quatre à sept jours après la chirurgie.

CRITÈRES DE SÉLECTION

(a) Critère d'admission

- (i) homme et femmes entre 18 et 70 ans
- (ii) chirurgie nécessaire pour exérèse de dent(s) incluse(s), chirurgie pour exostoses ou pré-prothétique

* Motrin, La Compagnie Upjohn du Canada, Don Mills, Ontario.

* La Compagnie Sandoz

TABLEAU I

Patients

	NOMBRE	HOMMES (%)	FEMMES (%)
Ibuprofène	49	26 (53)	23 (47)
A.A.S. 30	47	25 (53)	22 (47)
Placébo	47	21 (45)	26 (55)

TABLEAU II

Âge et poids

	ÂGE		POIDS (kg)	
	MOYENNE	ÉCART	MOYENNE	ÉCART
Ibuprofène	26	18-67	62.0	31-113
A.A.S. 30	26	18-44	61.3	34-82
Placébo	31	18-68	66.7	43-99

TABLEAU III

Intensité de la douleur avant la prise du médicament à l'essai

	NOMBRE DE PATIENTS (%)		
	DOULEUR LÉGÈRE	DOULEUR MODÉRÉE	DOULEUR SÉVÈRE
Ibuprofène	5 (10)	29 (59)	15 (31)
A.A.S. 30	5 (4)	27 (58)	18 (38)
Placébo	5 (11)	26 (55)	16 (34)

TABLEAU IV

Intensité de la douleur par rapport au temps

TEMPS (H)	0	1	2	3	4
Ibuprofène	5.6	4.2	2.0	1.3	1.1
A.A.S. 30	6.1	4.1	3.2	2.8	3.0
Placébo	5.6	5.9	4.7	3.2	2.1

TABLEAU V

Différence d'intensité de la douleur par rapport au temps

TEMPS (H)	1	2	3	4
Ibuprofène	-1.31	-3.70	-4.47	-4.56
A.A.S. 30	-1.91	-2.71	-3.19	-2.90
Placébo	-0.23	-0.61	-1.50	-2.60

TABLEAU VI

Nombre de patients (%) ayant pris le médicament-secours

	Heures 1-2	Heures 1-3	Heures 1-4	Heures 1-8
Ibuprofène	12 (24.5)	18 (36.7)	19 (38.8)	27 (55.0)
A.A.S. 30	15 (31.0)	21 (44.7)	30 (63.8)	41 (87.2)
Placébo	21 (44.7)	3. (66.0)	36 (76.6)	39 (83.0)

TABLEAU VII

Effets secondaires

PATIENT No:	MÉDICAMENT	EFFET	INTENSITÉ	RELATION possibilité
6	Ibuprofène	bouffées de chaleur vertige tachycardie	légère	
71	Placébo	nausées	légère	san relation
91	Placébo	vertige	légère	san relation
111	Placébo	frissons léthargie	légère	san relations
214	Ibuprofène	frissons dépression yeux qui brûlent	légère	probablement relié au médicament supplémentaire

- (iii) patients pouvant communiquer comme il faut avec le personnel en charge de l'étude
- (iv) patients habitant à une distance raisonnable du bureau de l'investigateur et pour qui la visite de surveillance n'est pas un déplacement majeur
- (v) la participation à cette étude est purement volontaire. L'investigateur renseignera les patients sur les objectifs de l'étude et répondra aux questions qu'ils pourraient lui poser.

(b) Critères d'exclusion

- (i) personnes de moins de 18 ans et de plus de 70 ans
- (ii) femmes enceintes et celles qui, à l'interrogatoire, admettent la possibilité d'une grossesse non confirmée
- (iii) maladie grave du système cardiovasculaire, des reins ou du foie (les diabétiques et les hypertendus dont l'état est bien contrôlé sont admissibles)
- (iv) antécédents d'ulcères, d'hypersensibilité à l'un des médicaments à l'essai et antécédents de bronchospasme dû à l'acide acétylsalicylique et à d'autres agents anti-inflammatoires non stéroïdes
- (v) impossibilité de prendre la médication orale
- (vi) impossibilité de communiquer comme il faut avec le personnel en charge de l'étude
- (vii) patients prenant déjà, régulièrement, des analgésiques, des médicaments agissant sur le SNC ou des anti-inflammatoires, y compris des stéroïdes (soit ceux souffrant de polyarthrite rhumatoïde ou d'ostéoarthrite)
- (viii) ceux qui, selon l'investigateur, nécessiteront une sédation profonde ou une anesthésie générale
- (ix) ceux qui ne recevront pas un anesthésique local courant

L'anesthésique employé pour ces patients était Carbocaïne 2 pour cent 1:20,000 néocobéfrine.*

En outre, les patients recevaient comme suppléments alimentaires des produits "Sustacal"*** sous forme liquide et pudding.

Pour les paramètres tels l'intensité de la douleur et le soulagement après la prise du médicament, l'ibuprofène et A.C.C. 30 furent supérieurs au placebo. De plus, l'ibuprofène fut supérieur à l'A.C.C. 30 en ce qui concerne l'intensité de la douleur à long terme et le soulagement de la douleur aussi à long terme.

* La Compagnie Cook-Waite, Aurora, Ontario

** Compliment de la Compagnie Mead-Johnson Canada, Belleville, Ontario.

Cinq patients rapportèrent des effets secondaires, trois d'entre eux ayant pris le placebo et deux l'ibuprofène.

Ces effets secondaires étaient mineurs et ne nécessitèrent aucune action thérapeutique.

Enfin, des 147 patients ayant participé à l'étude, quatre ne purent être évalués pour les raisons suivantes:

- Deux eurent recours au médicament complémentaire moins d'une heure après l'absorption du médicament à l'essai,

- Un patient ne fut pas revu en post-opératoire, et

- Un patient ne remplit son évaluation horaire que cinq heures après la prise du médicament.

Suite à ces résultats, au cours de l'année scolaire 1983-1984, il fut décidé de mener une autre étude à double insu avec la coopération de 65 patients ayant subi des chirurgies identiques. Cette fois l'étude consistait à administrer à ce groupe, une heure en pré-opératoire ou bien un placebo ou bien une tablette d'ibuprofène 400 mgs. Après la chirurgie, chaque patient recevait huit tablettes d'ibuprofène 400 mgs à prendre au rythme d'une tablette chaque quatre à six heures pour contrôler la douleur. Au moment d'absorber la première tablette en post-opératoire (heure 0) le patient indiquait sur sa formule le degré d'intensité de sa douleur. Après la prise du médicament le patient indiquait l'intensité de sa douleur et l'effet analgésique à chaque heure pendant quatre heures. De plus il devait indiquer l'heure d'ingestion des autres tablettes d'ibuprofène.

Des 65 patients ayant participé à cette étude, 62 furent retenus, trois ayant été éliminés pour des raisons semblables à l'étude antérieure.

De ce groupe, deux patients rapportèrent des effets secondaires. Le premier ayant absorbé l'ibuprofène rapporta une léthargie légère. À la visite de contrôle, il fut déterminé qu'il n'y avait pas de relation. Un deuxième patient ayant pris le placebo rapporta une sensation de chaleur. Cette réaction était aussi légère et non reliée au médicament.

CONCLUSION

La première étude démontre que l'ibuprofène est un analgésique efficace suite à une chirurgie buccale lorsque le praticien s'attend à une douleur légère à modérée. De plus, ce médicament a l'avantage de ne pas affecter le système nerveux central et permet au patient de vaquer à ses occupations. Il a aussi été démontré que l'ibuprofène est supérieur à l'A.C.C. 30 en ce qui regarde l'intensité de la douleur et l'effet analgésique à long terme.

La deuxième étude, pour sa part, nous indique que les patients ayant absorbé l'ibuprofène en pré-opératoire pouvaient attendre plus longtemps avant l'absorption de la première tablette en post-opératoire. Il n'y eut cependant pas de différence en ce qui regarde le nombre de tablettes absorbées en post-opératoire pour les groupes ibuprofène et placebo ni entre le temps écoulé entre les prises de la première et dernière tablette en post-opératoire.

- Les statistiques complètes peuvent être obtenues de la Compagnie Upjohn du Canada, 865 York Mills Road, Don Mills, Ontario, M3B 1Y6.

- L'auteur tient à remercier Mesdames Muriel Bédard et Francine Alexandre sans qui il aurait été impossible de mener à bien ces recherches cliniques.

- Merci également à Monsieur Pierre Y. Lambert, Associé en recherche clinique, de la Compagnie Upjohn, pour sa coopération à l'élaboration des projets et son encouragement, de même qu'à Madame Thérèse Paquet pour la préparation du manuscrit.

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TABLEAU I

Patients

	HOMMES (%)	FEMMES (%)	TOTAL
Ibuprofène	10 (33)	20 (67)	30
Placebo	13 (41)	19 (59)	32

TABLEAU II

Âge et poids

	ÂGE	
	MOYENNE	ÉCART
Ibuprofène	26	19-54
Placebo	26	18-54

	POIDS (Kg)	
	MOYENNE	ÉCART
Ibuprofène	60.6	39-107
Placebo	62.6	45-104

TABLEAU III

Temps entre la chirurgie et la prise de la première tablette d'ibuprofène (heures)

Ibuprofène	3.78
Placebo	2.63

TABLEAU IV

Nombre de tablettes en post-opératoire

Ibuprofène	4.93
Placebo	5.06

TABLEAU V

Temps entre la prise de la première et la dernière tablette en post-opératoire

Ibuprofène	39.33
Placebo	40.06

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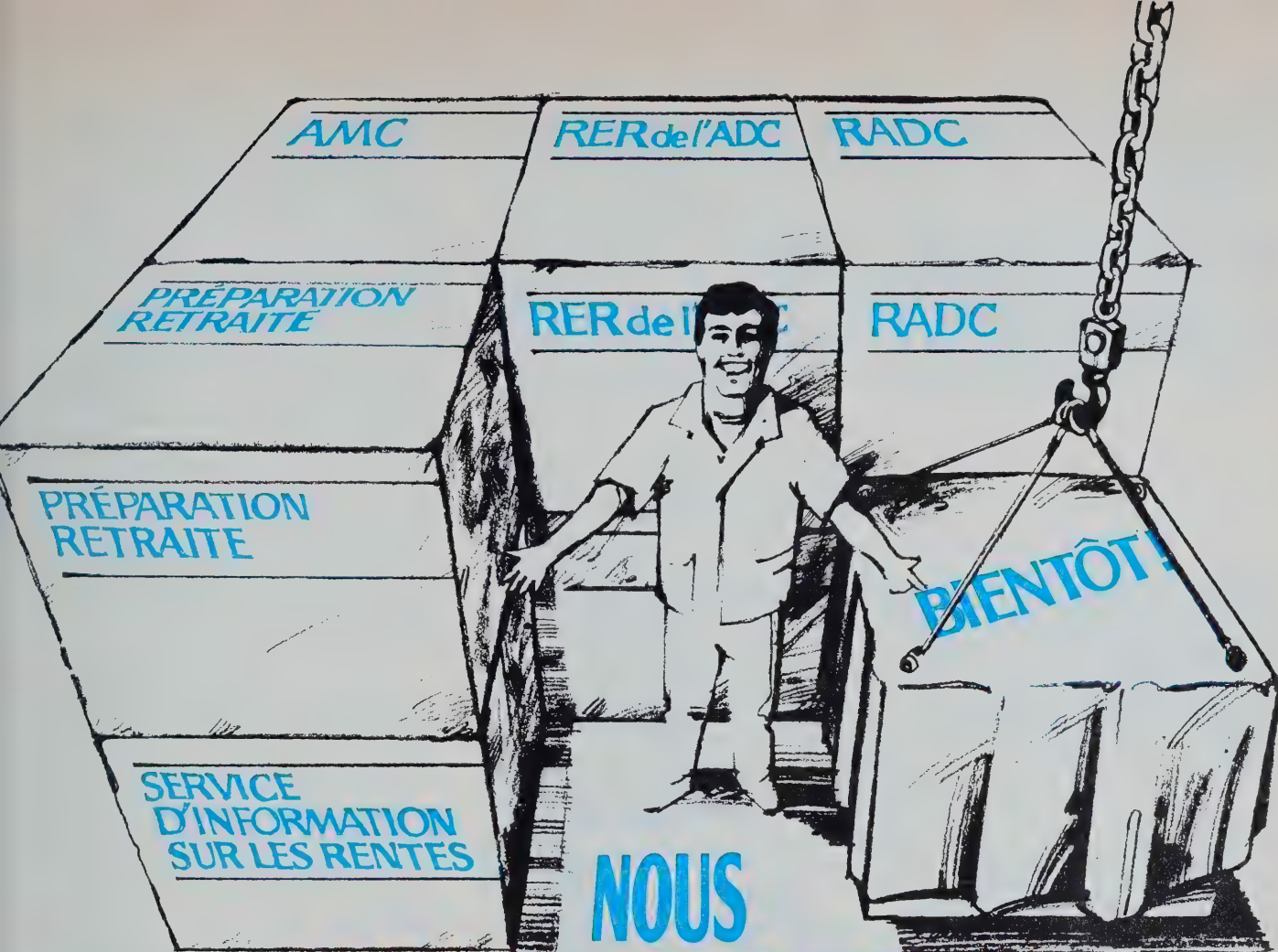
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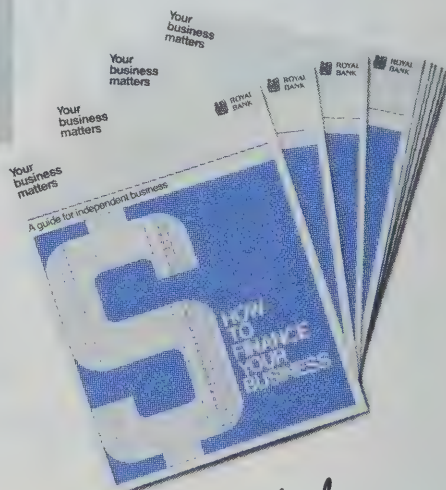
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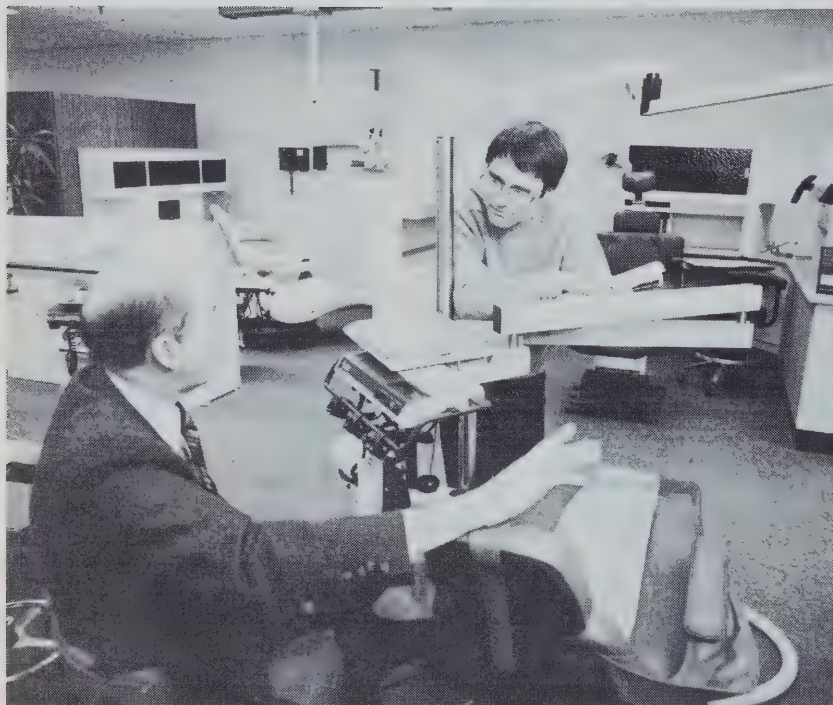
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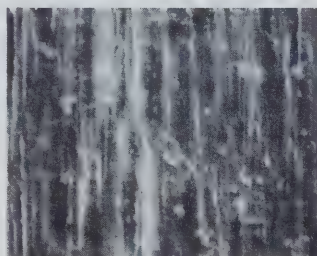
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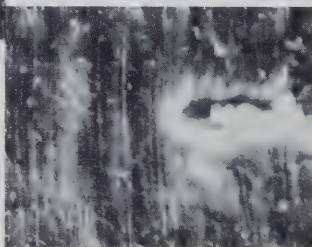
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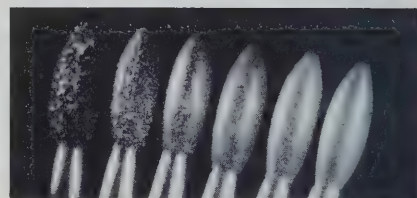


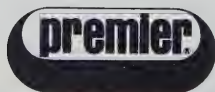
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Announcements

APRIL/AVRIL 1986

April 12-15: Michigan Dental Association 129th Annual Session. Westin Hotel, Renaissance Centre, Detroit Michigan. Contact: MDA Central Office, 230 North Washington Square, Suite 208, Lansing, MI. 48933, 517-372-9070.

April 12-14: 64th Annual Scientific Session of the Michigan Dental Hygienists Association. Omni International Hotel, Detroit, Michigan. Contact: MDHA Central Office, Katherine Radcliffe, Executive Director, 1609 E. Kalamazoo St. Suite 11, Lansing, MI 48912, 517-484-1352.

April 22: Dynamic Practice Management for the entire dental team by Linda L. Miles. Dental Dynamics, Inc. of Virginia. Westin Hotel, Edmonton. Sponsored by Alberta Academy of General Dentistry. Contact: Dr. Henry C. Yu, 10025-106 St., Edmonton, Alberta, T5J 1G4, (403) 428-9188.

April 26-27, Dr. Daniel Garliner of the Institute for Myofunctional Therapy, Coral Cables, Florida. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location, Montreal, call Diane Bailargeon at (514) 463-1281 for details.

MAY/MAI 1986

May to October 1986: Vancouver and District Dental Society in conjunction with the Inter-Specialty Dental Society of British Columbia will be presenting multidisciplinary seminars, endorsed by the College of Dental Surgeons of British Columbia, from May through October 1986 to coincide with Expo '86. Limited Attendance. Inquire early by contacting Susan Ryan, c/o Vancouver and District Dental Society, 1125 West 8th Avenue, Vancouver, B.C. V6H 3N4. 604-734-0717.

May to October 1986: Expo '86. Continuing Dental Education, presented by the University of British Columbia. Multidisciplinary seminars in Vancouver, B.C. Contact: Continuing Dental Education, 105-2195 Health Sciences Mall, Vancouver, B.C. V6T 1W5 604-228-2627.

May 1-4, 1986: Alabama Implant Congress XII, Birmingham, Alabama. Contact: The Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama, 35206, 205-836-2211.

May 2-4, 1986: The 2nd International Symposium on Periodontics and Restorative Dentistry. Westin Hotel, Boston Mass. Sponsored by Quintessence Publishing Co. Inc. Contact: Quintessence Publishing Co. Inc. 8 South Michigan Ave. Chicago Ill. 60603. 312-782-3221.

May 9-11: Seminar entitled "Clinical Management of Temporomandibular Disorders." Calgary Alberta. Speaker is Dr. Weldon E. Bell. Fee: \$500. Contact: Sharon Bamson, Faculty of Continuing Education, The University of Calgary, Calgary, Alberta. T2N 1N4, 403-220-4729/4718.

May 11: American Academy of Oral Medicine – American Academy of Oral Pathology joint Symposium on Viral Diseases. Westin Hotel, Toronto, Ontario. Contact either: Dr. Dean K. White, University of Kentucky College of Dentistry, Lexington, KY, 40536 or Dr. Norman S. Alperin, Suburban Hospital, 4200 Warrensville Center Road, Cleveland, Ohio 44122.

May 11-14, 1986: Ontario Dental Association 119th Annual Spring Session. The Sheraton Centre Hotel, Toronto. Contact: Diana Thorneycroft, 234 St. George St., Toronto, Ontario, M5R 2P1.

May 12-16: 40th Annual Meeting of the American Academy of Oral Pathology, Westin Hotel, Toronto, Ontario. Contact: Dr. Dean K. White, University of Kentucky College of Dentistry, Lexington, Kentucky, 40536 USA.

May 19-21: National Institutes of Health (NIH) Consensus Development Conference on the Integrated Approach to the Management of Pain. Bethesda, Maryland. Warren Grant Magnuson Clinical Centre. Contact: Peter Murphy, Prospect Associates, 2115 East Jefferson St. Suite 401, Rockville, Maryland, 20852, 301-468-6555.

May 21-23, 1986: International Life Sciences Institute, Symposium on Sweetness. International Conference Centre of

Geneva, Switzerland. Contact: Symposium Secretariat, Conference Associates ILSI, 27A Medway Street, Westminster, London SW1P 2BD, England.

May 21-23, 1986: Expodent 1986 Trade Fair and Congress for Present Day Dentistry and Dental Technology. Utrecht, Holland. Contact: Royal Netherlands Industries Fair, Postbus 8500, 3503 RM, Utrecht Holland.

May 23-26, 1986: The 34th Annual Fitzgerald Dental Radiology Workshop will be held at the Delta Mountain Inn, Whistler, B.C. Contact: Dr. O.F. Wright, #330-5655 Cambie St. Vancouver, B.C. V5Z 3A4, 604-261-8021.

May 25-29, 1986: Journées Dentaires du Québec. Palais des Congrès de Montréal, Québec. Pour informations, communiquer avec le docteur Michel Jahjah, président du Conseil de gestion des Journées dentaires, 625 boul. Dorchester ouest, 5^e étage, Montréal, Québec H3B 1R2, Tél: 514-875-8511.

May 29-30: Summer Institute on Interdisciplinary Management of AIDS, presented by the Algonquin College of Applied Arts and Technology, Congress Centre, Ottawa, Ontario. Contact: Lynn Ruff, Algonquin College, Building E Room 101, 1385 Woodroffe Ave., Nepean, Ontario. K2G 1V8 613-727-7618.

JUNE/JUIN 1986

June 2-4: National Institutes of Health Consensus Development Conference on The Utility of Therapeutic Plasmapheresis for Neurological Disorders. Masur Auditorium, Warren Grant Magnuson Clinical Centre, Bethesda, Maryland. Contact: Nancy Cowan, Prospect Associates, 2115 East Jefferson St., Suite 401, Rockville, Maryland. 20852.

June 7-8: Dr. Henri Petit, Orthodontist at Baylor University, Dentalfacial Orthopedics. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Bailargeon at (514) 463-1281 for details.

June 7-13: Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada is holding the ACFD/CADR XIV Biennial Conference on Dental Education and Research. The Nottawasaga Inn, Alliston, Ontario (North of Toronto.) Contact: Mrs. Stella M. Taylor, Administrative Assistant, The Association of Canadian Faculties of Dentistry, 5059 Dentistry Pharmacy Building, University of Alberta, Edmonton, Alberta, T6G 2N8, 403-463-8371.

June 13-14: L.D. Pankey Association presents Dr. John Nasedkin in a seminar entitled "The Key to Successful Restorative Dentistry: Practical Aspects of Comprehensive Care and the Occlusal Cycle." London, England. Contact: Conference Organizer, L.D. Pankey Association, The Old Bothy, Norwood Hill, Nr. Horley, Surrey, England RH6 OHP.

June 20-23: Canadian Academy of Periodontology Annual Scientific Meeting and National Periodontal Teaching Conference. Sheraton Hotel, Halifax Nova Scotia. Contact: Dr. Ed Hannigan, 590-5991 Spring Garden Road, Halifax, N.S. B3H 1Y6.

June 22-23: The International Conference on Ventures in Dental Materials, Kurhause Hotel, Scheveningen-The Hague, Holland. For further information contact: Sybil Greener, Academy of Dental Materials, Northwestern University Dental School, 311 East Chicago Ave., Room 10-019, Chicago, Ill. 60611, 312-943-8410.

June 26-29, 1986: 10th International Symposium on Dental Hygiene. Oslo, Norway. Scandinavia Hotel. Contact: The Scientific Committee, 10th International Symposium on Dental Hygiene, P.O. Box 438, 1301 Sandvika, Norway. For more information contact either Inger-Lise Bryhni or Elisabeth Olsen Kolbjornsen at the above address.

June 27-28: Joint meeting, Association of Prosthodontists of Canada and Canadian Academy of Prosthodontics in conjunction with Expo '86, Vancouver, B.C. Canada. Contact: Dr. C. Osadetz, 1046 Dentistry/Pharmacy Building, University of Alberta, Edmonton, Alta. T6G 2N8. 403-432-3631.

June 30-July 4: The 8th Congress of the International Association of Dentistry for the Handicapped, Bergen, Norway. Contact: Dr. Marit Moland, Helsm Vei 19, 5032 Minde, Norway.

June 30-July 7: Yukon Dental Association's 6th Annual Summer Convention. June 28-29 Continuing Education Seminar in Whitehorse, Yukon. June 30-July 7, Midnight Sun Canoe Trip. Contact: Dr. Chuck Hazen, 5110-5th Ave. Whitehorse, Yukon. Y1A 1L4, 403-668-6707.

JULY/JUILLET 1986

July 1, 1986: Applications are being accepted for the Postdoctoral program, Dental Diagnostic Science at the University of Texas, Health Science Center at San Antonio for the class beginning July 1, 1986. Address inquiries to: Office of the Associate Dean for Advanced Education, The Dental School, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio TX. 78284.

July 4-6: Dentistry '86, the British Dental Association Annual and Scientific Meeting. Manchester, England. Contact: Helen MacKay, Meeting Planner, 64 Wimpole St. London, W1M 8AL.

July 6-11, 1986: The World Dental Conference, Jerusalem, Israel. Deadline for submission of Abstracts: March 15, 1986. Contact: Rifka Boruchowicz or Dalia Raif, convention co-ordinators, Diamond International Tours Inc, 1183 Finch Avenue, Suite 203, Downsview, Ontario. M3J 2G2, 416-663-9100.

July 6-11: 6th International Congress of Immunology, Toronto, Ontario. Contact: Dr. Bernhard Cinander, Chairman, International Congress of Immunology 416-978-6120, or Dr. Philip Halloran, Press Liaison Officer, Congress Organizing Committee, 416-586-5185.

July 29-August 2: Alberta Dental Association Annual Convention, Grand Centre, Cold Lake, Alberta. Contact: Dr. David Lawton, P.O. Box 2110, St. Paul, Alberta. T0A 3A0. Telephone: 403-645-3769.

AUGUST/AOÛT 1986

August 18-21: Canadian Academy of Pediatric Dentistry presents the 7th Canadian Congress on Dentistry for Children, University of British Columbia, Vancouver, B.C. Contact: Dr. R.E. Patton, Suite 801, 925 W. Georgia St., Vancouver, B.C. V6C 1R5 604-685-5620.

August 22, 23, and 24: Dr. Waldemar Brehn, Advanced Mechanics. Sponsored

by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Baillargeon at (514) 463-1281 for details.

August 24-27, 1986: Canadian Dental Association Annual Convention. Halifax Nova Scotia. Contact: CDA, 1815 Alta Vista Dr. Ottawa, Ont. K1G 3Y6.

August 25-29, 1986: Biennial Conference of the New Zealand Dental Association, Wellington, New Zealand. Contact: Conference Secretary, New Zealand Dental Association, P.O. Box 3709, Wellington, New Zealand.

SEPTEMBER/SEPTEMBRE

September 15-19: Annual Conference of the Canadian Society of Forensic Science, Sheraton Brock Hotel, Niagara Falls, Ontario. Contact: Executive Secretary, Canadian Society of Forensic Science, 2660 Southvale Crescent, Suite 215, Ottawa, Ontario, K1B 4W5, 613-731-2096.

NOVEMBER/NOVEMBRE

November 20: The Toronto Academy of Dentistry Winter Clinic. Metro Toronto Convention Centre. Contact: Academy office, 234 St. George St., Toronto, Ont. M5R 2P2, 416-967-5649.

1987+

September 24-25, 1987: The British Society for Oral Medicine is hosting a meeting in the Royal College of Surgeons of England, London, England. Contact: Dr. David Wray, Secretary Treasurer, British Society for Oral Medicine, Dept. of Oral Medicine and Oral Pathology, High School Yards, Edinburgh, Scotland, E1H 1NR.

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C.D.A. TEACHING CONFERENCE

PERIODONTICS AND THE DENTAL CURRICULUM

Halifax Sheraton, Friday, June 20, 1986

PROGRAM

- | | | |
|--|---|---|
| 8:30 | Opening Remarks | Dr. Crawford Bain
<i>Head, Div. of Periodontics
Dalhousie University
Faculty of Dentistry</i> |
| 8:45 | CURRICULUM CHANGES BASED ON CHANGING
DISEASE PATTERNS | Dr. Jukka Ainamo
<i>Chief, Epidemiology
National Institute of Dental Research
Bethesda, Maryland</i> |
| 9:45 | CURRICULUM CHANGES BASED ON TEACHING
ADVANCES | Dr. John Eisner
<i>Assoc. Prof. of Community Dentistry
Faculty of Dentistry
Dalhousie University</i> |
| 10:45 | Coffee | |
| 11:00 | CURRICULUM CHANGES BASED ON RESEARCH
DEVELOPMENTS | Dr. Max Listgarten
<i>Chairman, Dept. of Periodontology
University of Pennsylvania
Philadelphia, P.A.</i> |
| 12:15 | INTERDISCIPLINARY RELATIONS – IMPLEMENTA-
TION OF CHANGE IN A DENTAL FACULTY | Dr. David Donaldson
<i>Assistant Dean
Faculty of Dentistry
University of British Columbia</i> |
| 1:00 –
3:00 | Working Lunch | |
| WORKING GROUP RESPONSES/RECOMMENDATIONS | | |
| 3:00 –
3:15 | DISEASE PATTERNS | Dr. Tevor Chin Quee
<i>Director, Div. of Periodontics
Faculty of Dentistry,
McGill Univ.</i> |
| 3:15 –
3:30 | TEACHING ADVANCES | Dr. Paul Schuller
<i>Chairman, Div. of Periodontics
Faculty of Dentistry,
Univ. of Alberta</i> |
| 3:30 –
3:45 | RESEARCH DEVELOPMENTS | Dr. David Singer
<i>Head, Dept. of Diagnosis & Surgical Sciences
(Periodontics) College of Dentistry,
Univ. of Saskatchewan
Dalhousie's Dean Elect</i> |
| 3:45 –
4:00 | IMPLEMENTATION | |
| | Coffee | |
| 4:15 –
5:00 | PANEL DISCUSSION | |
| 5:15 | Cocktails | |
| P.M. | Dinner | |

This meeting immediately precedes the Canadian Academy of Periodontology Annual Scientific Meeting at the Halifax Sheraton, June 21-23. Speakers include Dr. Max Listgarten and Dr. Manny Marks, University of Pennsylvania. For information, contact: Dr. C.A. Bain, Chairman, CDA Teaching Conference, Head, Division of Periodontics, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia, B3H 3J5.

CONFÉRENCE DE L'ADC SUR L'ENSEIGNEMENT LA PARODONTIE ET LES PROGRAMMES D'ÉTUDES DENTAIRES

Hôtel Sheraton de Halifax — le vendredi 20 juin 1986

PROGRAMME

8h30	Mot de présentation	D ^r Crawford Bain <i>Directeur de la Parodontie Fac. de médecine dentaire Univ. Dalhousie</i>
8h45	MODIFICATION DES PROGRAMMES D'ÉTUDES SUIVANT LES CHANGEMENTS DANS L'ÉVOLUTION DES MALADIES	D ^r Jukka Ainamo <i>Directeur de l'Épidémiologie National Institute of Dental Research Bethesda, Maryland</i>
9h45	MODIFICATION DES PROGRAMMES D'ÉTUDES SUIVANT LES PROGRÈS DE L'ENSEIGNEMENT	D ^r John Eisner <i>Prof. adjoint de médecine dentaire communautaire Univ. Dalhousie</i>
10h45	Pause-café	
11h00	MODIFICATION DES PROGRAMMES	D ^r Max Listgarten <i>Directeur de la Parodontologie Univ. de la Pennsylvanie Philadelphie, Penn.</i>
12h15	RAPPORTS INTERDISCIPLINAIRES — MISE EN VIGUEUR DE CHANGEMENTS DANS UNE FACULTÉ DE MÉDECINE DENTAIRE	D ^r David Donaldson <i>Vice-doyen Fac. de médecine dentaire Univ. de la Colombie-Britannique</i>
13h00– 15h00	Déjeuner et groupe de travail	
RÉPONSES ET RECOMMANDATIONS DU GROUPE DE TRAVAIL		
15h00– 15h15	L'ÉVOLUTION DES MALADIES	D ^r Trevor Chin Quee <i>Directeur de la Parodontie Fac. de médecine dentaire Univ. McGill</i>
15h15– 15h30	LES PROGRÈS DE L'ENSEIGNEMENT	D ^r Paul Schuller <i>Directeur de la Parodontie Fac. de médecine dentaire Univ. de l'Alberta</i>
15h30– 15h45	LES PROGRÈS DE LA RECHERCHE	D ^r David Singer <i>Directeur du Diagnostic et de la Chirurgie (Parodontie) Collège de médecine dentaire Univ. de la Saskatchewan</i>
15h45– 16h00	MISE EN VIGUEUR	Le doyen désigné de l'Univ. Dalhousie
	Pause-café	
16h15– 17h00	DÉBAT	
17h15	Réception Dîner	

Cette assemblée précède immédiatement la tenue de l'assemblée scientifique annuelle de l'Académie canadienne de parodontologie qui aura lieu du 21 au 23 juin, à l'hôtel Sheraton de Halifax. Parmi les orateurs, il y aura le D^r Max Listgarten et le D^r Manny Marks, de l'Université de la Pennsylvanie. Pour de plus amples renseignements, on vous prie de communiquer avec: le D^r C.A. Bain, président de la Conférence de l'ADC sur l'enseignement, Directeur de la Parodontie, Faculté de médecine dentaire, Université Dalhousie, Halifax, Nouvelle-Écosse, B3H 3J5.

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BRITISH COLUMBIA—Dental Practice in Kelowna, B.C. for sale. Established family practice leaning towards removable prosthetics. One-sixth share of professional building included in the sale. Two fully equipped operatories, two labs, dark room, private office. Holding lease on adjoining suite. Inquiries c/o Dr. K.E. Geis, #26-1710 Ellis Street, Kelowna, B.C. V1Y 2B5 or telephone (604) 762-2223.

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ALBERTA—Ten year old general practice for sale in west central Alberta. Owner moving. 790 plus square feet, two operatories, etc. Bright, cheery office, fully trained staff. Price — 60 months @ \$1,000.00/month plus \$30,000.00 down payment. Owner will stay and help out if necessary for awhile. Please contact CDA Box No. 2316.

ALBERTA—Central—Available now. Well established family practice with six figure net, for sale. Attractive price, could be paid off within one year. Fine recreational area (nearby National Park). Present owner prepared to associate if desired. Please reply to CDA Box No. 2307.

ALBERTA—"Sale or Associate/Purchase Contract". Family practice nine years old. Very well equipped. Shared office expense. Very reasonably priced. Returning to U.S. Please reply to CDA Box No. 2308.

ALBERTA—Calgary. Owner wishing to retire early from established dental practice in central medical-dental building. Two good sized equipped operatories, low overhead and room to expand. Asking a reasonable

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SOUTHWESTERN ONTARIO—Successful established family practice for sale in small town near major centres. Goodwill & owner's share of modern group facility, equipment & real estate. An excellent opportunity for one year's present gross. Please call (0) 519-738-2676 or (H) 519-776-6277.

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ALBERTA—Associate Required in one of Alberta's finest outdoor areas, Fort McMurray. Progressive, conscientious associate needed for a satellite office in this community. Must be willing to work extended hours. Excellent opportunity for the right person. Phone: Dr. E.M. Zysko at (403) 743-5958 (0) or (403) 791-9380 (R).

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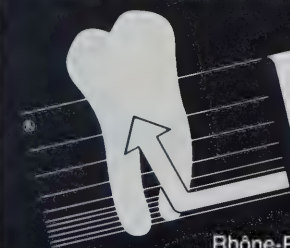
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Nobilium Canada Inc.	314
Pfingst and Company Inc.	295
Philips Electronics Ltd.	282
Premier Dental (Canada) Inc.	332
Procter and Gamble	IFC
Rhone Poulenc Pharma Inc.	276, 311, 339
The Royal Bank of Canada	330
Seimens Electric Ltd.	312, 313
Tridont Dental Centres	320, 321
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A JOURNAL

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JOURNAL

Canadian Dental Association de l'Association Dentaire Canadienne

EDITORIAL 349

Microidentification chips may soon gain the public attention they deserve, JCDA's editor notes.

NEWS UPDATE 350

BRIEFLY 361

Dental news items from across Canada and around the world.

LETTERS 364

CDA's Taxation Committee congratulated for achieving federal tax concessions.

CDA RESOURCE CENTRE 365

A list of articles available from the CDA Resource Centre/Library on the subject of 'Dental Radiography Update'.

BOOK REVIEWS 367

CLINICAL FEATURES 371

POSTS IN MOLARS

Martin Gelfand, DDS, FRCD(C)

ARTICLES 373

TUPLAKS, SCRIMSHAW AND NETSUKES 373

Dr. Geoffrey Sperber

PRELICENSURE PAPERS — FROM JOINT CONFERENCE ON PRELICENSURE 379

INTERNATIONAL TRENDS IN ORAL HEALTH 379

Dr. D.E. Barmes — (W.H.O.)

MEDICAL LICENSURE: AN HISTORICAL AND THEORETICAL PERSPECTIVE 387

D. Laurence Wilson, MD

THE LEGAL PROFESSION: AN HISTORICAL VIEW OF DEVELOPMENTS RE: LICENSURE 397

Dr. R. Ianni

THE DENTAL PROFESSION: AN HISTORICAL REVIEW OF DEVELOPMENTS 402

RE: LICENSURE AND REVIEW OF CURRENT ARRANGEMENTS FOR TESTING AND LICENSURE

Dr. Wesley J. Dunn

PRELICENSURE AND ITS IMPACT ON RESEARCH 407

Dr. A.R. Ten Cate

EFFECTS OF PRELICENSURE ON STUDENTS AND THEIR TEACHING 409

Liliane LeSaux

SCIENTIFIC 411

THE DECLINE IN DENTAL CARIES IN ONTARIO SCHOOL CHILDREN 411

Dr. David Johnston et al

QUALITY CONTROL MECHANISMS IN DENTAL INSURANCE SCHEMES IN ONTARIO 419

Dr. P.V. Cooney et al

A SURVEY OF PARENTS' PERCEPTIONS OF DENTAL NEEDS OF THEIR HANDICAPPED CHILD 425

Drs. Ray E. McDermott, Hossam E. ElBadrawy

LA DOULEUR DENTAIRE DISSÉQUÉE EN TROIS JOURS 429

Dr Christiane Mascrès

CDA RSP 355

OBITUARIES 364

ANNOUNCEMENTS 433

MARKETPLACE 439

ADVERTISERS' INDEX 441

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LOST AND FOUND DENTAL-STYLE

Further on in this issue, our resident whimsey artist "Cuspid" in his column "Ad Lib" tell readers about the detectives of the profession — forensic dentists.

While the job of dentists specializing in this area is an important one during times of disaster, soon the widespread use of microidentification chips may make dental detective work a whole lot easier. Microidentification chips are tiny ceramic inlays which are implanted in tooth enamel during a regular dental visit. Each chip contains full identification data on both the patient and the dentist who implanted the chip. Each patient is given an identification number which, along with the name of the dentist, dental office telephone number, and country or state, is listed on the microchip.

Originally intended as denture marking systems in institutions such as senior citizens' residences and chronic care hospitals, these microidentification chips are becoming increasingly popular with all age groups.

One age group which is particularly vulnerable in our society is children. Increasing numbers of children disappear from parks, schools and playgrounds every year. Public awareness of the problem of missing children is being heightened by news reports, and magazine features which appear with increasing frequency. Faces of the missing peer out at you from bus billboards and subway posters.

The growing incidence of missing children has prompted the federal Department of Justice to propose that May 25 be declared National Missing Childrens' Day. Should this declaration be made, a whole new wave of public awareness may be generated. As public awareness grows, the dental practitioner may have a chance to play an important role. The implanting of microidentification chips in childrens' teeth may soon become a precaution every parent will want to take. Indeed, many police departments in Canadian and U.S. cities are advocating the use of dental ID chips for many segments of the population — including our children.

In the future, detective work may not be left to the law enforcement agencies alone. Dental practitioners may be called upon to keep an eye out for ID chips in any patient's teeth — young or old. Dentists may play a central role in the identification of victims for whom it is too late — or in the identification of the missing for whom it may not be too late.

With the widespread use of microidentification chips, some stories of the missing may yet have a happy ending.

*Carolyn Hackland,
Editor*

News Update

DR. JEAN-YVES TURCOTTE NAMED DEAN AT LAVAL

Dr. Jean-Yves Turcotte, who has enjoyed a distinguished career in military dentistry and as a professor at Laval University's School of Dental Medicine, has been named Dean of that University's dental school.

He assumed the office on March 8.

A native of Mont Joli, Québec, Dr. Turcotte earned a BA degree from Loyola College in Montréal in 1953 and in 1958 was graduated with a DDS, from the University of Montréal.

He enrolled in the Royal Canadian Dental Corps in 1956 and subsequently saw service in Goose Bay, Labrador, Grostenquin, France and the National Defence Medical Centre, in Ottawa.

At the Walter Reed Army Medical Centre, Georgetown University, Washington, D.C., Dr. Turcotte engaged in post graduate studies in oral and maxillofacial surgery.

In 1967 he returned to Canada and became Chief of the dental staff at the National Defence Medical Centre in Ottawa.

After two years as resident in oral and maxillofacial surgery at the Doctors Hospital Medical Centre, Toronto, (University of Toronto), he was named Commandant of the dental unit at Valcartier, Québec, Military Hospital.

To Laval in 1976

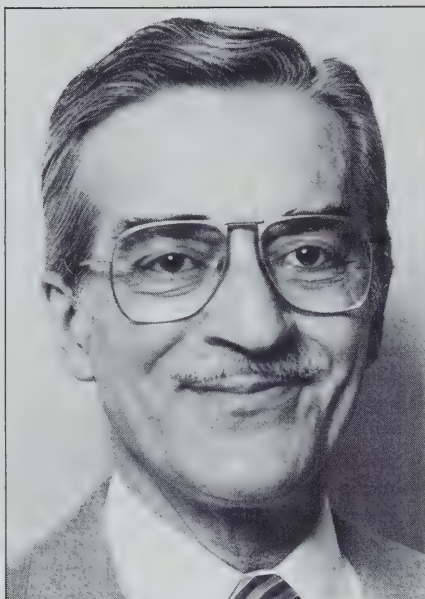
Dr. Turcotte was named Head of Surgery at the Laval University School of Dental Medicine December 1, 1976.

He fulfilled many administrative duties in that office, notably chairman of the program and admission committees and supervision of the oral and maxillofacial surgery program.

He has also been involved in a number of research programs in the field of pain control.

Honors

In his military career, Dr. Turcotte attained



Jean-Yves Turcotte, BA, DDS, CD, FRCD(C)

the rank of Lieutenant Colonel and was awarded the Canadian Forces Decoration.

He also became a Fellow of the Royal College of Dentists of Canada.

He is a member of the Canadian Association of Oral and Maxillofacial Surgeons and the Order of Dentists of Quebec. He continues to serve the military as a specialist in maxillofacial trauma at the Valcartier, Québec, Military Hospital. Dr. Turcotte is a member of the council of the Hôpital de l'Enfant-Jésus and Centre Hospitalier de l'Université Laval, and is a specialist consultant for the Québec provincial health insurance plan.

Widely known

Dr. Turcotte is internationally known as a lecturer. He has given presentations in Martinique, France and Tunisia and was a member of an international panel interviewing African professors, in the Congo.

His articles have been published in a num-

ber of refereed Journals including this publication.

Family

He and his wife Yvette have three daughters: Dominique, director of le Centre de Danse in Québec City, Chantal, a medical doctor in Montréal, and Joëlle, a student in Québec.

U.S. INSTITUTE HELPS DISABLED DENTISTS RETURN TO WORK

The David B. Kriser Institute, a cooperative venture between the New York University dental school and the Rusk Institute of Rehabilitative Medicine, helps dental practitioners who have been disabled, to eventually return to their practices.

Dr. Blaine Alleman of Largo, Florida, is a case in point. Disabled severely when the recreational vehicle he was repairing fell and trapped him between the tire and wheel well, Dr. Alleman was left with residual weakness in the left side and impaired eyesight in one eye. Once rehabilitation began, Dr. Alleman knew that he wished to return to practice. He was referred to the David B. Kriser Institute.

Founded in 1977 following a grant by David B. Kriser, a New York philanthropist, the Institute offers clinical training and alternative vocational planning to dentists who are disabled as a result of illness or injury.

Dr. William Greenfield, Associate Dean for Hospital and Extramural Affairs, New York University Dental School, is codirector of the Institute.

"Our primary goal (at the Institute) is to enable disabled dentists to be retrained in order to permit them to return to active participation in the dental community," said Dr. Greenfield.

Consultative, vocational advice, and psychological services and support are also

available to dentists who do not want to or cannot return to active dental practice.

Participants in the program are not sought by the Institute. Rather, the Institute is generally sought by practitioners in need. Each individual dentist has his or her own retraining program designed to meet individual special needs so that the potential of each individual is maximized.

A medical and dental team evaluates the medical history of prospective candidates before they are accepted into the Institute's programs. Once accepted, the physical and psychological capabilities of each candidate are assessed by specialists in medicine, psychology, physical therapy, occupational therapy, nursing and social work. Once the assessment is complete, one of three decisions is made: either the dentist is capable of retraining, clinical retraining is not a feasible alternative, or further rehabilitation is necessary before a clinical retraining program can be undertaken. Any retraining process encourages the participation of the practitioner's spouse and auxiliary personnel.

During the retraining program the dentist works with a team of dentists, auxiliaries, psychologists and other disabled dentists. Diagnostic exercises, mounting of radiographs, clinical examinations and patient interviews are among the functions performed.

Once the retraining program is over, the Institute has a follow up series of evaluations and dentally related exercises which will help make the transition back to practice smoother.

The Institute accepts five or six candidates for rehabilitation in dentistry per year.

For more information, contact: The David B. Kriser Institute for the Rehabilitation of Disabled Dentists, New York University Dental Centre, 421 First Avenue, New York, New York. 10010.

(The Journal wishes to acknowledge both the ADA News and Elizabeth Giangrego, for the source of this story.)

Ottawa Dentist Leaves Legacy to CDA:

DR. FREDERICK GLADSTONE GOLLOP 1897-1984

Born in 1897 at Georgetown, Ontario, Dr. Gollop was the son of a pioneer dentist in the Georgetown area. Following graduation from the University of Toronto in 1920, Dr. Gollop practised for a short time in the Ontario towns of Georgetown and Milton. Dr. Gollop moved to the city of Ottawa, Ontario, in the mid-1920's and set up private practice in general dentistry. He retired in the mid-1970's after more than



Dr. Frederick Gladstone Gollop as he looked at the time of graduation, 1920.

50 years of dedicated service to the profession.

He was married to the former Pearl Campbell and lived with his wife at 2013 Alta Vista Drive in Ottawa, a short distance from the present CDA Headquarters, for many years. Mrs. Gollop predeceased her husband, passing away in 1982.

A quiet, kindly man, Dr. Gollop was said to be dedicated to the principle that the patient's well-being is primary, and dedication to self, secondary. Always in solo practice, Dr. Gollop throughout his dental career is reported to have had a "charitable way in relationships with patients" and throughout the years was dentist to numerous Ottawa politicians of reknown.

A long time member of the Ottawa Dental Society, Dr. Gollop knew the necessity of the dentist being the "continuous student" and at all times kept himself abreast of the ever-changing, ever-expanding dental knowledge.

Dr. Gollop had a particular love of horses, a trait he inherited from his own father who displayed show horses. Amongst his hobbies was a fondness of art; sketching and drawing. Friends who visited the Gollops in their home were fondly shown an excellent collection of antiques and early Canadiana of which the Gollops had considerable knowledge. A particularly prized item was a grandfather clock, now over 250 years old, which Dr. Gollop inherited from his father.

The Gollops had no children of their own but readily "adopted" young people who visited them. In later years, prior to his

death, Mr. and Mrs. Joseph May of Woodlawn Avenue in Ottawa were frequent attendees to Dr. Gollop's needs and cares and the Mays speak fondly of Dr. Gollop's interest in young people and their activities. The May children, Courtenay, Danielle and Sean reported how Dr. Gollop always displayed a singular interest in any endeavor they spoke about. A proud but very shy man, Dr. Gollop resisted to the very end the sincere pleas of the May family to move into their home in order that Dr. Gollop's needs might best be served.

Any conversations with Dr. Gollop's dental friends always reveal that Dr. Gollop was concerned about dentistry's professional image. With his dedication to the profession, Dr. Gollop was always upset and hurt whenever dentists were unfairly criticized and maligned. Dr. Gollop lived a lifetime of professional dedication and it was this intrinsic characteristic that prompted Dr. Gollop to make the Canadian Dental Association recipient of a magnanimous gesture — the beneficiary of \$66,000 — toward the "well being of the profession".

At press time final details had not been completed, but it is expected that the \$66,000 legacy will be invested and the proceeds for the investment will be used in an appropriate manner to further the cause of dentistry in Canada.

(The Journal wishes to thank Dr. Ralph Crawford for the preparation and research into this story.)

\$2,000 AWARD FOR GRADUATE RESEARCH A CDA encouragement to research in Canada

**Dr. Pierre Desautels; Chairman,
CDRF Awards Committee**

The Canadian Dental Association recognizes that the practice of dentistry has undergone great changes in the past and anticipates more developments in the future as a result of scientific discoveries and technological developments. Nevertheless it believes that continuous attention should be addressed to research on the part of both the basic science and clinical faculties in schools of dentistry. The Association also believes that encouragement and stimulation should be provided for research in dentistry. Not only do faculty members or graduate and post-graduate students gain personally from discovering and developing new knowledge, but often their teaching or practice is more stimulating. Ultimately society gains from application of new knowledge; in the case of dentistry, society benefits by receiving improved oral health care.

It is mainly for these reasons that a fund was provided in 1920 by a group of fifteen Canadian dentists incorporated under the name of "The Canadian Dental Research Foundation". As recorded by the original Letters Patent, their purposes and objects were to "serve humanity and the dental profession by investigation, study and research in connection with oral defects and disorders and all other matters pertaining to the science and practice of dentistry". "The work is to be done by recent graduates".

This fund is administrated by the Canadian Dental Association through its Council on Dental Materials and Devices. As mentioned earlier the purpose of the award is to encourage research related to dentistry conducted by graduate or post-graduate students in Canada; entries are limited to the candidates who have conducted their work in association with the dental faculty of a Canadian University.

A prize of \$2,000 and a plaque is made available biennially and presented to the student who submits the best report on a research project. The CDRF Institutional Trophy is also presented to the dean of the dental school or to the chairman of the department in which the research was conducted. The trophy remains in this institution for a period of one year.

Each entry is judged by a group of three referees appointed by the Council on Dental Materials and Devices. The referees are persons qualified in the particular subject in question and are usually faculty members of Canadian Universities. The Council on Dental Materials and Devices is aware of the possible diversity of the submissions and binds itself to judge each contribution on its own merit and level of competence of the applicant.

If possible, the award may be presented and a paper may be read at the annual meeting of the CDA or at the ACFD Biennial Conference on Canadian Dental Education and Research.

As far as the nature of the submitted report is concerned it consists of a one typewritten copy in the form of a paper. The manuscript must be based on original research and should not exceed 25 pages. Equally acceptable is a previously published paper on the candidate's graduate work either currently in press or already published in a scientific journal not earlier than two years previously, provided the candidate of the competition is the senior author.

All eligible candidates are encouraged to apply at the CDA headquarters for rules and entry forms. The 1st of December is the deadline for filing. For the 1987 competition, the deadline is the 1st of December 1986.



PRESIDENT'S COLUMN

Dr. Brad Holmes

MANDATORY PRELICENSURE Needless or Necessary?

What is a mandatory prelicensure period? By definition it would be a required clinical training after graduation from dental school but before obtaining a license to practice dentistry. Our medical confreres have been using this system for many years. As you are aware, the MD degree is awarded upon graduation, but a license is not obtainable until the internship program has been successfully completed.

Why have a mandatory prelicensure period, you ask. The proponents say that it will produce a better qualified, more mature and experienced candidate for licensure. Their reasons for saying this are as follows. Dental schools do not have sufficient time to adequately cover the didactic portion of the dental education because of the time spent on clinical training. If some of the clinical training could be moved to the prelicensure period, then there would be more time to devote to the educational components of dental school. The prelicensure training would add maturity and experience to the candidate for licensure, thus improving the quality and skills of the candidate.

The detractors say that it would add an unnecessary period of time to an already lengthy program. The system seems to be working well: "if it ain't broke, don't fix it."

Regardless of which side you choose to support the topic makes for some good discussion and hearty debate. Since it was felt the topic should be discussed formally, the CDA decided to sponsor a two-day Joint Prelicensure Conference, with some support from the National Dental Examining Board and the Canadian Fund for Dental Education. On February 24 and 25 in Montreal, this conference was held to study the concept of a mandatory prelicensure period. Dr. George Beagrie, Dean of the University of British Columbia dental school was the conference organizer. Dr. Ken Bentley and Dr. Jean-Paul Lussier were the conference chairmen. The conference was well-run, well-attended and well-enjoyed by all those participating.

The participants in the program spanned several professions and several continents. Dr. David Barmes, the Chief of Oral Health for the World Health Organization, spoke on International Trends in Oral Health. His presentation focused on the status of oral health in the world today and what was envisaged for the future. Dr. Larry Wilson Dean of Medicine from Queen's University, gave a presentation on the historical review of developments for licensure in the medical profession. Dr. R. Ianni, President of the University of Windsor, representing the legal profession, talked about the current methods and problems of licensure in the legal profession.

Two other international speakers, were Dr. Paul Goldhaber, dean of Harvard's Faculty of Dentistry and Dr. Rod Moore an American dentist who has spent much of his life in Denmark studying the Scandinavian dental experiences. Dr. Goldhaber told the conference about Harvard's rather unique system. It is a very intense program and you will have opportunity to read his presentation in this issue. Dr. Rod Moore gave a detailed presentation on the prelicensure period in Sweden. It has been in place for years and seems to be working well in that country. Many other speakers gave presentations on topics such as the relationship of dental research to prelicensure, the effect of prelicensure on dental students and their teaching, the effect on general practice and the benefits and implications for the public. This is not a complete outline, but serves to show the range of topics covered.

All attendees had a chance to participate through the workshops, led by Drs. Marcia Boyd, Dan MacIntosh, Art Schwartz, Jim Wright and Mr. Bill Wilton from the Niagara Institute. The results of the workshops were presented to the conference and the input from this area was most valuable.

The general consensus was that a mandatory prelicensure period may have a beneficial effect if it was planned in conjunction with necessary changes to the dental school curricula. I won't say more on the topic as you will all have a chance to read the presentations in the Journal and develop your own position as a result.

The luncheon speaker was Dr. Peter Glynn, Assistant Deputy Minister, Health Services and Promotion Branch, Health and Welfare Canada. He spoke on "Oral Health - A Government Viewpoint." During his presentation, Dr. Glynn congratulated CDA for its initiative in sponsoring the conference and commented very favourably on our own Dental Awareness Program. I realize that this is a slight shift of gears from prelicensure but I'm always happy to present good news to the Journal readers at the end of one of my columns.

**CDA CONVENTION
AUGUST 24/27
HALIFAX '86**

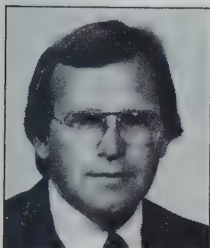


**CONGRÈS DE L'ADC
24-27 AOÛT
HALIFAX '86**

'LOOKING TO THE FUTURE'

Delegates to the 1986 CDA National Convention in Halifax will benefit from the opportunity to participate in an exciting panorama of dental knowledge and education, which will lead them into the 1990s with confidence.

A world class array of presentations and symposia ensures that attendance at these events will be memorable.



Dr. Gary M. Foshay
*Scientific Program
Chairman*

Scientific Program Chairman Dr. Gary M. Foshay, has revealed the details to this Journal, and has provided the

information which follows:

Monday, August 25

Morning Session – 10 a.m. to Noon
Grieve Memorial Lecture



Dr. Frank Shamy
— Past-President of the Canadian Association of Orthodontists, who conducts a private specialty practice in Montréal and has been a member of the Faculty of

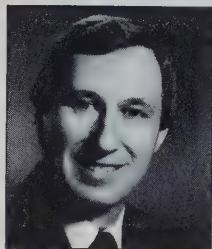
Dentistry, McGill University, is the presenter at this highlight event in the scientific program.

"Orthodontics and Periodontics: The Foundational Basis for Restoration of the Compromised Adult Dentition." (This session will continue, following lunch, until 4.30 p.m.) This presentation will be by Drs. Normand Boucher and Harvey Levitt.



Dr. Normand Boucher
— is Clinical Assistant Professor of Orthodontics at the University of Pennsylvania and Chief of Orthodontics at Thomas Jefferson

University.



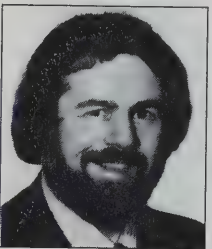
Dr. Harvey Levitt
— has been an Assistant Professor of Orthodontics and Periodontics at the University of Pennsylvania and with the Department of Orthodontics at McGill University Montréal. He has also been guest lecturer in Orthodontics at the University of Montréal.

"Endo-Perio: The Diagnostic Dilemma"



Dr. Phillip Malloy
— of Brookline, Massachusetts, is an Associate Professor at Tufts University, Boston, and has a private specialty practice in Boston and Cape Cod.

"Birth Defects and Dentistry"



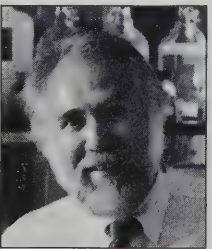
Dr. Michael Cohen Jr.
— is Professor of Oral Pathology, Faculty of Dentistry, and Professor of Pediatrics, Faculty of Medicine, at Dalhousie University, Halifax. The author of more than 120 articles in the scientific literature, Dr. Cohen has been author, co-author and co-editor of seven books.

Monday, August 25

Afternoon Session – 2 to 4.30 p.m.

"Orthodontics and Periodontics" (Drs. Normand Boucher and Harvey Levitt, continues until 4.30 p.m.)

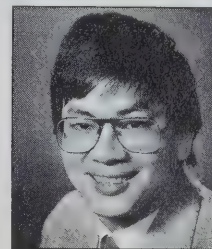
"Research Opportunities for the 21st Century"



Dr. Harold Slavkin
— who is very active in the International Association for Dental Research, is Professor of Biochemistry and Nutrition, and serves on the faculty, Graduate

Program in Cellular and Molecular Biology, Graduate School, University of Southern California. He is also Laboratory Chief, Laboratory for Developmental Biology, Gerontology Centre, University of Southern California.

"Role of Antimicrobials in the Treatment of Periodontal Disease"



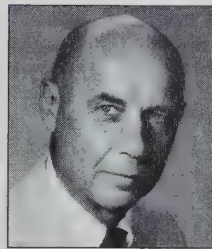
Dr. Trevor Chin Quee
— is Director and Associate Professor, Division of Periodontology, Faculty of Dentistry, McGill University, Montréal.

Student Table Clinics will be held Monday afternoon

Tuesday, August 26

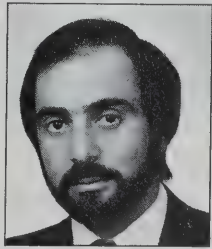
**Morning Session –
9 a.m. to Noon**

"Surgical Reconstruction of Deformed Pontic Areas"



Dr. Jay Seibert
— is Professor of Periodontics, School of Dental Medicine, University of Pennsylvania, Philadelphia. He also conducts a part time practice in Philadelphia.

"New Horizons in Dentistry"



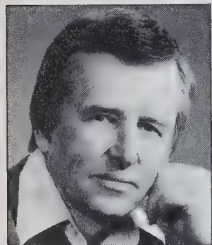
Dr. David Garber
— a specialist in the fields of Periodontics and Periodontal Prosthesis, conducts a private practice in Atlanta, Georgia. Earlier he was a member of the dental faculty of the University of Pennsylvania. (Dr. Garber's presentation will continue in the afternoon session)

Oral and Maxillofacial Surgery



Dr. David Precious — is Associate Professor, Oral Surgery, and Director of the Graduate Training Program in Oral and Maxillofacial Surgery, in the Faculty of Dentistry, Dalhousie University. He also has a private practice at Victoria General Hospital, Halifax.

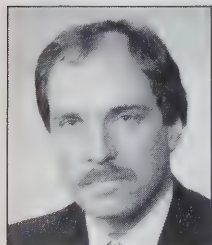
"Creative Strategic Planning"



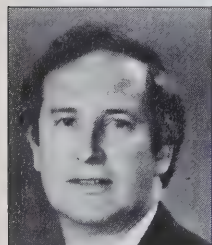
Mr. Wilson Southam — has made presentations in Canada, the United States and Australia, counselling health care professionals about health centres, self-management, facility design, workplace efficiency and systems analysis.

Health Screening Symposium:

"The Health of Canadian Dentists: Current Occupational Health Hazards of Concern"



Dr. Patrick Blahut — Assistant Professor, Department of Community Health and Preventive Dentistry, Baylor College of Dentistry, Dallas, Texas. Dr. Blahut was formerly a member of Dalhousie University's Faculty of Dentistry, as Assistant Professor of Community Dentistry and Acting Head, Division of Community Dentistry.



Dr. John Hardie — Consultant to the Ontario Cancer Foundation, CDA representative to the National Advisory Committee on AIDS, Chairman of CDA's Editorial Board and Head of Dentistry, Ottawa Civic Hospital.



Dr. Elliott Sutow — who holds a PhD from the School of Metallurgy and Materials Science, University of Pennsylvania, is Associate Professor, Department of

Restorative Dentistry, Division of Dental Biomaterials Science, Dalhousie University.



Dr. William Mayberry — who holds a PhD in Educational Psychology, is a Professor and Associate Dean, Academic Affairs, School of Dentistry of the University of Missouri, Kansas City.

Tuesday, August 26

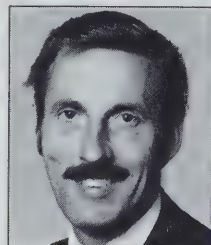
Afternoon Session —
2 to 4.30 p.m.

"Surgical Reconstruction of Deformed Pontic Areas" (continues, with Dr. Jay Siebert)

"New Horizons in Dentistry" (continues, with Dr. David Garber)

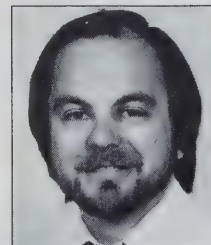
"Creative Strategic Planning" (continues with Mr. Wilson Southam)

"The Future of Biomaterials"



Dr. Derek Jones — is Professor and Head, Division of Dental Biomaterials Science, Faculty of Dentistry, Dalhousie University. He states that "the future use and development of improved biomaterials as substitutes for natural tissues during the next 20 years will provide dentistry with an exciting and challenging prospect."

"Maxillofacial Prosthetics: From the Womb to the Tomb"
Also: "Head and Neck Cancer: A Trilogy of Care"



Dr. Robert Brygider — who will present on Maxillofacial Prosthetics, is Assistant Professor, Removable Prosthodontics, Faculty of Dentistry, Dalhousie University. He also maintains a private specialty practice (part-time) in Halifax.



Dr. Robert Hoar — Assistant Professor of Prosthodontics and Co-ordinator of Dental Laboratories, Faculty of Dentistry, Dalhousie University, will speak on Head and Neck Cancer, and the care of afflicted patients.

Clinicians' Table Clinic Presentations will continue throughout the day

Wednesday, August 27

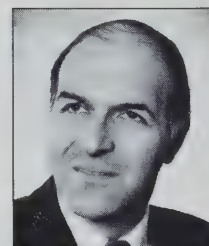
Morning Session —
9 a.m. to Noon

"Successful Removable Partial Dentures"



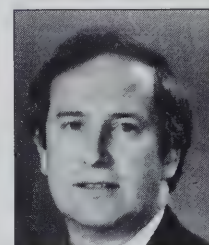
Dr. Robert Chapman — who is Head of the Division of Fixed and Removable Prosthodontics and Director of Implant Prosthodontics, Tufts University, Boston, is the presenter. Dr. Chapman also maintains a private specialty practice in Boston.

"Protecting the Dentist Against the Law"



Mr. Lorne E. Rozovsky, QC — is a member of a prominent law firm in Halifax. He works exclusively in the health law field, advising health professionals, associations and institutions, across Canada and abroad. He says professional malpractice can be prevented with increased legal awareness and simple legal guidelines.

"AIDS — Related Disease and Dentistry"



Dr. John Hardie — Consultant to the Ontario Cancer Foundation, CDA representative on the National Advisory Committee on AIDS, Chief of Dentistry, Ottawa Civic Hospital and Chairman of CDA's Editorial Board, will speak on the oral manifestations of AIDS and the impact on the delivery of dental care.

"Dental Manpower — A Symposium Update"



Dr. Ian Vogan
— Associate Professor of Periodontics, Department of Restorative Dentistry, Dalhousie University, and Chairman of the CDA Convention Committee,

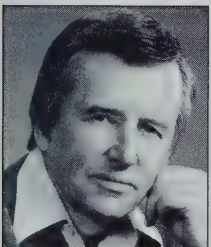
1986, Halifax, is the Moderator of this Symposium.

Panelists:



Dr. Derrick M. Chisholm
— of Dundee, Scotland, who has served as Dean of Dentistry, University of Dundee, is a member of the Dental Educational Advisory Committee of the U.K. and also of the national

General Dental Council, and a member of the Dental Committee, Scottish Council for Postgraduate Medical Education.



Mr. Wilson Southam
— consultant to health care professionals on matters of health centres, self-management, facility design, workplace efficiency and systems analysis.

PHOTO NOT
AVAILABLE

R.K. House, PhD
— who heads the firm R.K. House & Associates, economic consultants, became familiar with dental profession concerns early in his firm's career, and in 1982,

produced the highly significant document: "Manpower Supply Study. Scenarios for the Future: Dental Manpower to 2001", for the Canadian Dental Association.

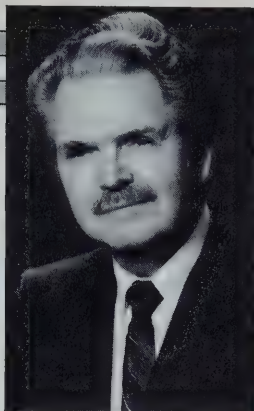
SCIENTIFIC PROGRAMME GIVEN GOOD SUPPORT

Organizers of the Scientific Program for Convention '86, in Halifax, are grateful for the support offered within the dental industry and from other commercial interests in Canada.

They wish to note that the following have come forward and will support various facets of the program:

Oral B Laboratories
Ash-Temple Limited
Healthco (Canada) Limited
Warner-Lambert Canada Inc.
Cerum Ortho Organizers

Denco Division of Sybron Canada Ltd.,
Avis Rent A Car
Hu-Friedy
Additional sponsors anticipated will be listed in future editions of this Journal.



DID YOU KNOW?

Dr. P. Ralph Crawford

This column begins a new monthly feature in the Journal. The purpose is to supply members and readers with up to date facts and information pertaining to CDA: the structure, the services, and the accomplishments of dentistry's "national voice."

DID YOU KNOW: CDA had its birth and beginnings in the year 1902, when 344 dentists, (there were only 1800 dentists in all of Canada) gathered in Montreal seeking national unity. A letter of information written by Dr. Eudore Debeau, to all dentists of Canada said it all: "every dentist who can rise above mere local or provincial affairs in our country, and has thought about the immense advantage to be gained by the nationalization of the dental profession, should unhesitatingly give the idea his support."

... nor is the message any different 84 years later!

The CDA has grown immensely in stature and knowledge, in the ensuing years. Grown into an organization of influence and service to its members and to the public.

DID YOU KNOW: The "ruling body" of CDA is the Board of Governors. . . 25 members from the 10 Corporate bodies, (provincial organizations), the Canadian Armed Forces and the Council on Student Affairs. The Board meets twice a year.

There is an Executive Council of the Board, comprised of nine members, which meets four times a year. Among its many responsibilities is "to conduct all business of the Association when the Board of Governors is not in session."

A Management Committee, consisting of the President, the Past-President and the President-Elect, has as its main task "custodian of all monies." It presents an annual report and the budget, (in 1986, \$3,500,000) to the Board.

Over 200 selfless men and women, members of the Association, serve on 10 Councils and six Committees, spending countless hours of toil in dedicated service.

DID YOU KNOW: (Hot off the Press! !): That immediately following the May 1985 Federal Budget when federal sales tax was imposed on dental equipment and supplies, CDA's Taxation Committee, chaired by Dr. Robert Hicks, swung into action. After innumerable letters and meetings, *Revenue Canada has removed the federal sales tax from most materials.* The benefits to dentistry and the public are inestimable.

DID YOU KNOW: That effective in 1986, the ceiling for RRSP deductions for the self-employed has been raised to \$7500. This was the result of a combined Brief from the Canadian Dental Association, the Canadian Medical Association, the Canadian Bar Association and the Canadian Institute of Chartered Accountants. Dr. Robert Hicks, a past-President of CDA, chaired the consortium, gathered the information and presented the Brief to the Parliamentary Committee on Pension Reform.

DID YOU KNOW: from Dominion Dental Journal, 1902:

"the CDA which held its first convention at McGill University in Montreal last month, was a most enjoyable event. . . the Montreal dentists are great entertainers and had us on the go the major part of three days. The first event was a drive to Mount Royal in double-team vans, hacks and buggies. On our journey we lost our way and had to turn back while on a steep incline. Here, the horses fell down, causing the women to scream and everyone to scold the amateur driver."

Dr. Crawford is immediate past-president of CDA and Chairman of CDA's Membership Committee.

WORLD HEALTH ORGANIZATION FELLOWSHIPS

The Department of National Health and Welfare has announced details of the annual World Health Organization (WHO) competition for fellowships for Canadian citizens

wishing to undertake short-term studies abroad.

All health personnel in medical, paramedical and health related fields, including dentists and dental auxiliaries, veterinarians and veterinary assistants, engineers in the field of sanitary science, nutritionists, laboratory technologists, rehabilitation

specialists as well as administrators and teachers in all of these fields are eligible to apply; those engaged in pure research, undergraduate and graduate university students are not.

Applicants for WHO fellowships will be rated by a Canadian Selection Committee on the basis of education, experience, field of activity, proposed area of study and the intended use of their newly acquired knowledge.

The final decision for the award of a fellowship, as well as the proposed area of study, rests with WHO.

Applications must be received by August 29, 1986. Further information and application forms can be obtained by writing to:

WHO Fellowships
Intergovernmental and International
Affairs Branch
Department of National Health and
Welfare
Jeanne Mance Building
Tunney's Pasture
OTTAWA, Ontario K1A 0K9

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DENTISTS AS DETECTIVES

Sherlock Holmes' creator, Sir Arthur Conan Doyle, was a physician. . . as was Holmes' fictional sidekick, Dr. John Watson. While physicians have figured prominently, either as heroes or villains, in detective fiction one would be hard pressed to find a dentist associated with that genre.

But in the real world, dentists are playing an increasing role in identifying the victims of disasters and in proving conclusively that dead people who had assumed false identities during their lifetimes — the notorious Dr. Joseph Mengele comes to mind — are indeed the missing person or the criminal that, more empirically, they were suspected to be. So we might indeed expect dentists soon to assume roles as heroes of the crime novel.

Dentists examining the exhumed remains of the man "Gerhard", who was suspected of being Mengele, compared the peculiar diastema between the upper central incisors with SS records that included a dental chart which confirmed that "Gerhard" had a gap between his upper front teeth. Dental examination also revealed the deceased to have been between 65 and 70 years old.

In October, 1983, when a suicide commando drove his explosives-laden truck into the US marine headquarters building in Beirut, Lebanon, killing 251 people. . . 83 per cent of the 239 victims were identified by dental methods alone, or by dental methods in combination with fingerprints. As reported in *Military Medicine* (December, 1985) "The comparison of dental radiographs provided the single most accurate method of making positive identifications".

Similarly, computerized dental evidence can make a significant and accurate contribution to identifying missing persons. Many unidentified corpses are homicide victims, and often the problem for the police is in determining who the victim is. Since a death certificate cannot be issued for a missing person until the body is identified, this means that insurance claims and business transactions cannot be settled, and

wills cannot be probated. In the United States, the National Crime Information Centre is beginning to accept and compile dental data; in the computer age, it's possible to match the thousands of unidentified dead with the nation's missing persons. . . provided there's an accessible, centralized system.

Forensic dentistry played a significant role in identifying victims of the crash of an Air Arrow DC-8 at Gander, Newfoundland on Dec. 12, 1985. The same dental detective work was applied to the remains of those 50 people who perished in the fire at a British soccer stadium in May, 1985. The *British Dental Journal* (August, 1985) reported that "teeth that have been subjected to high temperatures retain their form but become very brittle. The use of any instrument to discover restorations can lead to disintegration of the crown. Despite such damage, radiographs taken of these teeth and supporting bones are as clear as, or even superior to clinical radiographs". Of the soccer stadium victims, 24 were positively identified by dental means and in another five cases corroboration from dental evidence was provided. The difficulty was in making identifications from dentures, and perhaps a case can be made for building some kind of indestructible identification into dentures.

While examining the teeth has been the chief way of determining the identity and age of their owners, there is increasing evidence that the sex of badly burned or mutilated corpses can also be determined using fluorescent dyes to demonstrate Y chromosomes in pulp tissue. Here there's reason to believe that retzius lines in tooth enamel may be "fingerprints" of identity. . . and the incremental lines of Ebner in the dentine might be even more so, since no two people, even uniovular twins, have the same patterns on the lips; these are another promising area for "fingerprinting".

With dentists playing a significant and growing role in real life detective work surely it can only be a matter of time before a latter-day James Bond or Sherlock Holmes has the letters DDS after his name.

RSP?RSP?RSP?

Peter B. Dennett
Director of Retirement Services, CDSPI

All the Retirement Savings Plan hype of the past two months reminds me of an old song with a slight change in lyrics, "Here a RSP, there a RSP, everywhere a RSP."

"This is the RSP for you", is a message that has bombarded you by the banks, trust companies, investment houses, insurance companies, credit unions, mutual fund people, financial planners and a number of other sources. The impact of all this information has the effect of questioning one's choice of a RSP.

Now that the last minute rush is over you should take the time to evaluate your contribution decision without the pressure of a deadline facing you, or salespeople calling you and saying you have to invest in this particular fund now. The usual questions will come to mind. Did I make the right choice? What is the right choice? How do I decide what is the RSP for me?

Registered Retirement Savings Plans are no longer simply a tax deferral scheme where the investor simply obtains tax relief on his tax return. Plans were originally sold on the basis of reducing income tax, but holdings in RSPs are now large enough that they have to be treated as any other investment, with the proper care and attention.

But with all the gobbledegook about which plan is the best, it can be very confusing as to what is the right plan, and how do you make that decision. The exercise should be approached just like any other major deci-

sion in your life, with considerable thought and planning.

Here are some helpful steps for the planning process.

1. On a piece of paper write down what you believe to be your retirement goals.
2. Assess the type of plan you need by looking at the various categories such as flexibility, security, risk factors, costs associated with a plan, as well as performance.
3. Flexibility takes into account the ability to transfer between one type of investment to another to take advantage of special situations.
4. Costs should take into account any front end loads, annual administration fees, transfer fees whether they be internal transfers or otherwise, as well as closing fees. Occasionally there are also transaction fees associated with self-directed plans.
5. If you are considering a self-directed plan, you should ask yourself, "Do I have the time and do I want to look after the plan myself, or should I have somebody else doing it for me."
6. Remember, if that someone else is a broker, there will still be a demand on your time analysing the information and making the decision on the advice and input from the broker. That someone could also be a representative of an investment and mutual fund company.
7. With the superb results that funds have

recorded recently, do you think you could do as well handling the plan yourself.

8. When we talk of fund managers, they do not have to be fund managers of mutual fund companies only. Some of the banks and trust companies as well as insurance company plans and the CDA funds are managed by professional fund managers.

9. When you have accumulated sufficient money in your plan, let's say \$40,000.00 or \$50,000.00, you should view your RSP in the context of your overall investment portfolio and look at it in the same light.

10. "Do not put all your eggs in one basket", does not necessarily mean opening up four or five separate plans. Many RSPs today let you mix and match various investment options within the one plan. This provides you with a diversified portfolio with minimum record keeping and easy tracking of your Plan.

11. Hedge your bet by mixing your RSP money with some short, medium and long term strategies. This way, no matter which way interest rates go (why attempt to predict which way rates will go yourself when even the "experts" cannot agree), you protect yourself. When equity prices move up, rates have a tendency to come down, while on the other hand, when interest rates rise substantially, common stocks have a tendency to drift downward. This diversified approach allows you to protect yourself

from investing in any one particular category of the market, but at the same time leaves you with some exposure to participate in special situations that may develop.

If you are unsure whether your RSP measures up or not, you can always have CDSPI, through its Retirement Services Division, evaluate your plan without charge or obligation. You can write to CDSPI at Suite 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z5 or call toll free:

1-800-268-5411 Western Canada,
Atlantic Canada and
Ontario Area
Code 807

1-800-268-3411 Quebec and Ontario
(except area code 807)

416-497-7117 Metro Toronto

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at	
	March 31, 1986	February 28, 1986
Fixed Income Fund	51.44161	50.11781
Common Stock Fund	114.86635	106.76071
Money Market Fund	34.24799	32.89402
Balanced Fund	21.61012	20.68831

Interest rates:

Guaranteed Fund Term	*Interest rates as at	
	March 31, 1986	February 28, 1986
1 yr	10%	10.50%
2 yr	10.0%	10.60%
3 yr	10.10%	10.60%
4 yr	10.0%	10.60%
5 yr	10.25%	10.75%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

March 31, 1986	February 28, 1986
\$57,516,811	\$52,910,936

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:

Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area 497-7117



Amy is 6. Amy Has Arthritis!

30,000 Canadian children under 15 have arthritis. It's *not* just a disease of the elderly. Your support of arthritis research can help kids like Amy get better. Please ... be as generous as you can.

THE ARTHRITIS SOCIETY



CDA CONVENTION AUGUST 24-27 · HALIFAX '86

1986 CDA CONVENTION HOTEL RESERVATION FORM

IMPORTANT NOTES:

1. Hotel reservations will be confirmed upon receipt of your Convention Registration Form.
2. Room reservations will be held until 5:00 p.m. on day of arrival. To guarantee your reservation please fill in the required credit card information for Visa, Mastercard, and American Express. Cancellation notice must be given to the hotel at least 24 hours prior to date of arrival.
3. Deadline for Reservations: July 15, 1986.
4. Enquiries concerning accommodation or special requests should be directed to: Ms. Leslie Rich, Your Host Convention Service, P.O. Box 3594(S), Halifax, Nova Scotia, B3J 3J2, (902) 422-8336.

NAME:

(please print or type)

ADDRESS:

(Street)

(City)

(Prov.)

(Postal Code)

TELEPHONE NO.:

(Res:)

(Bus:)

Type of Room Required

☐ Single ☐ Double ☐ Twin ☐ Triple ☐ Other

Suites available upon request.

Arrival Date _____ Time _____ Departure Date _____

Name(s) of other occupant(s) if sharing _____

Indicate first **THREE** (3) Hotel Choices (Rates indicated single/double)

- | | |
|--|--|
| ☐ Halifax Sheraton (CDA Headquarters)
(\$95/\$105) | ☐ Citadel Inn (CDHA & CDAA Headquarters)
(\$75/\$85) |
| ☐ Prince George Hotel
(\$80/\$90) | ☐ Holiday Inn
(\$65/\$71) |
| ☐ Delta Barrington
(\$79/\$91) | ☐ Nova Scotian
(\$68/\$68) |
| ☐ Chateau Halifax
(\$75/\$85) | |

Reservation Guarantee:

Name of Credit Card

Number

Expiry Date

Please Check Appropriate Designation

- | | |
|---|---|
| ☐ Dentist | ☐ Specialist _____
(Please list speciality group) |
| ☐ Hygienist | ☐ Student |
| ☐ Assistant/Office Personnel | ☐ Technician |
| ☐ Other _____ | (Please specify) |

Please send reservation form to:

Ms. Leslie Rich
Your Host Convention Service
P.O. Box 3594(S)
Halifax, Nova Scotia
B3J 3J2

1986

CDA NATIONAL CONVENTION

AUGUST 24-27

HALIFAX, NOVA SCOTIA

REGISTRATION FORM

Name: Miss/Mrs/Ms _____
Dr/Mr _____ (please print for name tags)

Address: _____

City _____ Prov _____ Postal Code _____

Telephone No.: _____

Name of Spouse, if registered: _____

Name and Age of Children, if registered (see below)

Name _____ Date of Birth _____

CDA PRE-CONVENTION SOCIAL EVENT

SATURDAY, AUGUST 23, 1986

Harbour Sail: Hosted by local area Dentist/Sailors

Limited registration

Totals

\$20.00 per person _____

CONVENTION REGISTRATION

AUGUST 24-27, 1986

NOTE: Early registration will help in securing the hotel reservation of your choice. It can also mean savings in air fare, so make your plans early.

Please complete appropriate category

☐ **DENTIST:** General Practitioner
Specialist _____ (Specialty Group)

☐ CDA MEMBER/Foreign Dentist to June 15 after June 15
\$325.00 \$375.00 _____

☐ Non-Member \$375.00 \$425.00 _____

*Includes access to scientific sessions and exhibits, opening breakfast, two lunches, Sunday evening registration party and Tuesday evening Lobster Bash, daily exercise program - aerobics/running.

☐ **DENTAL SPOUSE** \$140.00 (each) _____

*Includes access to scientific sessions and exhibits, Sunday evening registration party, Monday Fashion Show and Lunch, Tuesday Tour, and Tuesday evening Lobster Bash, Halifax walking tour, Wednesday morning Seminars, daily exercise program - aerobics/running seminars.

Indicate Tour Preference: South Shore _____
Annapolis Valley _____

☐ **CHILDREN** \$60.00 (Each) _____

Ages 7-15 inclusive

Deadline Date: June 15 - Limited registration

Includes a sports day, Citadel tour and lunch, double decker bus tour of Halifax, magic show, films.

☐ **HYGIENIST** to June 15 after June 15

☐ Full registration

☐ CDHA Member \$125.00 \$150.00 _____

☐ Non-Member \$250.00 \$300.00 _____

*Includes access to scientific sessions and exhibits, daily aerobics, Sunday Harbour Cruise (pre-registrants only), Sunday registration party, Monday opening breakfast, Monday CDHA President's luncheon and Citadel Hill candlelight tour, Tuesday Lobster Bash, Wednesday brunch and learn.

☐ **Daily Registration** to June 15 after June 15

☐ CDHA Member \$55.00 \$65.00 _____

☐ Non-Member \$110.00 \$130.00 _____

Day(s) required _____

*Includes that day's scientific sessions and exhibits only.

☐ **CDHA SPOUSE/GUEST** \$60.00 _____

*Includes access to scientific sessions and exhibits, Sunday Harbour Cruise (pre-registration only), Sunday registration party, Monday CDHA luncheon and Monday evening "Candlelight Tour of the Citadel".

☐ **DENTAL ASSISTANT/OFFICE PERSONNEL**

☐ Full Registration to June 15 after June 15

☐ CDAA Member \$125.00 \$145.00 _____

☐ Non-Member \$155.00 \$175.00 _____

*Includes access to scientific sessions and exhibits, daily aerobics, Sunday registration party, Monday President's Luncheon, Tuesday Fashion Show and Luncheon, Wednesday Breakfast and Harbour Tour.

☐ **CDAA DAILY REGISTRATION**

☐ CDAA Member \$55.00 _____

☐ Non-Member \$65.00 _____

*Includes that day's scientific sessions and exhibits only.

☐ **CDAA SPOUSE/GUEST** \$50.00 _____

*Includes access to exhibits, and Sunday evening registration party.

☐ **STUDENTS**

- ☐ Dental
☐ Hygiene

Complimentary
Complimentary

**Includes scientific sessions and exhibits only*

☐ **TECHNICIAN/OTHER**

to June 15 after June 15

Please specify _____

\$ 50.00 \$100.00 _____

**Includes scientific sessions and exhibits, and Sunday evening reception.*

Monday's Walk About Lunch

\$ 8.00 per person _____

Tuesday President's Lunch

\$25.00 per person _____

Tuesday Night's Lobster Bash

\$45.00 per person _____

CDA Spouses' Fashion Show and Lunch

\$30.00 per person _____

Valley Tour

\$35.00 per person _____

South Shore Tour

\$35.00 per person _____

CDHA Monday Candlelight Citadel Tour

\$10.00 per person _____

CDHA Wednesday Brunch and Learn

\$20.00 per person _____

TOTAL AMOUNT OF CHEQUE ENCLOSED: _____

**Not included in registration package*

ADDITIONAL SOCIAL TICKETS

Sunday Evening Registration Party

\$35.00 per person _____

Monday Opening Breakfast

\$12.00 per person _____

*Monday President's Ball

\$50.00 per person _____

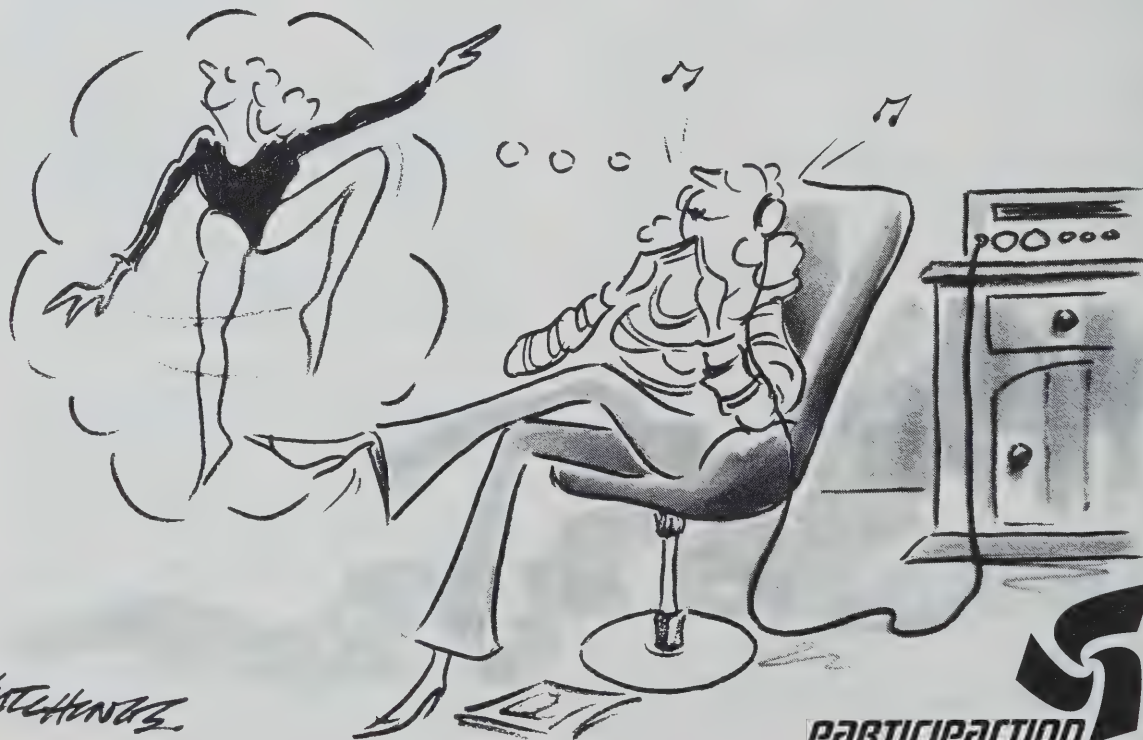
CANCELLATION POLICY: Cancellations are accepted in writing before July 15, 1986, for a full refund. Requests after that date are subject to a 25% administrative charge.

**Note: Please duplicate and complete this form if more than one registration is required.*

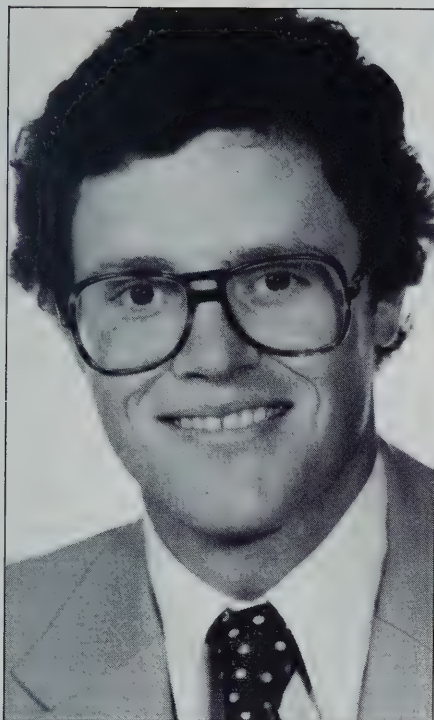
Make cheque payable to the CANADIAN DENTAL ASSOCIATION, and mail to:

1986 CDA Convention
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6

DON'T JUST THINK ABOUT IT - DO IT!



Briefly



Dr. David S. Precious

Dr. David S. Precious who is head of the division of Oral and Maxillofacial Surgery, Faculty of Dentistry, Dalhousie University, will be symposium chairman at the IX International Congress of Oral and Maxillofacial Surgery being held later this month in Vancouver.

Dr. Precious will become President of the Canadian Association of Oral and Maxillofacial Surgeons at this month's meeting of that Association.

The symposium he will chair in Vancouver will deal with the stability of facial advancement procedures.

Encouraged by the success of the first TV venture, the Faculty of Dentistry of the Université de Montréal in collaboration with the University's Audio-Visual Centre, are producing a second series of television programs on dentistry, called "Dents d'aujourd'hui II".

The programs are primarily produced for the general public on one hand, and on the other, for the specific clientele of the dental profession.

Sponsorship of the series is provided by the Order of Dentists of Québec.

A two-day conference on AIDS, with the theme "Taking the fear out of caring", is being held at the Congress Centre in Ottawa, Ont., May 29 and 30.

The Algonquin College-convened event will be of interest to dentists, dental assistants and hygienists, physicians, nurses, laboratory technicians, teachers and those responsible for the care of AIDS affected individuals.

Topics will include interventions in treating patients and their families, early detection of AIDS and AIDS-related illnesses, legal and ethical issues, the latest data and the psychological implications of AIDS.

Speakers from various North American centres have been invited to share their knowledge and experience.

More details will be provided from: Lynn Ruff, Health Sciences, Continuing Education, Algonquin College, 1385 Woodroffe Avenue, Nepean, Ontario, K2G 1V8, or by telephone (613) 727-7618.

Ontario's French-speaking students are being encouraged to pursue careers in health disciplines in a campaign being sponsored by Ontario's Ministry of Health.

The Ministry has identified an urgent need for French-speaking health professionals in Ontario and has directed the campaign toward students in Grades 7 to 13. Students are being urged to continue studies in mathematics and the sciences so they won't limit their career choices.

Last year, the campaign was tested in selected schools in the province and attracted considerable interest. This academic year, the program was taken to all French language schools in the Province.

The Faculty of Dentistry of the University of Western Ontario has unveiled a plaque honoring the founding contributors of UWO's new endowment for dental research.

The plaque bears the names of the 200 persons who collectively pledged \$200,000 to the endowment.

Interest from this endowment will be used to support dental research projects undertaken by faculty members.

Dr. B.J. Sessle (Physiology) of the University of Toronto has been appointed to the newly-established Long Range Plan-

ning Committee of the American Association for Dental Research.

The new Association has been formed, the Journal was advised, to identify new frontiers in oral health research.

Dental historians are hard at work in Manitoba.

Dr. Jack Abra, a much-respected pioneer in dental education in that province, is busy preparing, with the collaboration of Dr. Ralph Crawford, immediate Past-President of the CDA, a written history of dentistry in Manitoba.

Dr. Abra has been involved with the University of Manitoba dental school from the earliest days of its planning stages. He helped bring the school into being and contributed to its growth and development as a teacher, supporter and adviser over the years.

He has also contributed much to organized dentistry within and beyond that province, and served as President of the Canadian Dental Association in 1973.

He has established the Dr. Abra Fund for orthodontic education at the University of Manitoba. Dean Arthur Schwartz has described it as "a generous donation which will be of inestimable value to the undergraduate and graduate programs."



Dr. Jack Abra

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and join us in celebrating the Rights of the Child.

Children everywhere have the right to ...

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in time of disaster

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and medical care

An education

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develop individual
abilities

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Sunday, August 24/86

Registration Deadline Date: August 5, 1986

Entry Fee — \$8.00/Person

(Includes fun run T-shirt)

NAME (S) _____

ADDRESS _____

T-SHIRT SIZE:

☐ Small ☐ Medium ☐ Large

Send completed form and cheque payable to:

FUN RUN CO-ORDINATOR

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Halifax South Postal Station

Halifax, Nova Scotia

B3J 3J2

Good For Life™ DENTAL AWARENESS PROGRAM UPDATE

SPONSORSHIP: \$900,000 and Mounting

Are companies and government agencies really willing to support CDA's Dental Awareness Program with their dollars and resources? That was a big question when the CDA launched the Program. The answer is a resounding "Yes." So far, we've generated over \$900,000 of sponsorship — and two-thirds of that in the last six months alone.

- **Colgate-Palmolive** has sponsored CDA's second National Dental Health Checkup. Thanks to Colgate's dollars — which paid for developing the Checkups, producing them, and even inserting them into magazines — up to 6,000,000 people from coast to coast have been testing their knowledge of adult dental health issues and practices. *Chatelaine* carried 1,400,000 copies. Another 500,000 copies reached people through dental offices, pharmacies, and as part of regional Dental Health Month programming. The value to the CDA campaign: \$300,000.

- **Oral B** has committed \$250,000 this year to CDA's innovative booklet about what every adult should know about dental health. 1,250,000 copies will be released in early summer and distributed through pharmacies, dental offices, and direct mail — to reach a total of over 4,000,000 people.

- **Warner-Lambert** (Listerine and Listermint) have sponsored a special pharmacy promotion during Dental Health Month. 2,000 leading pharmacies across Canada received, compliments of Warner-Lambert, Good for Life posters, buttons, and doorstickers to use during April. The Warner-Lambert sales force delivered these materials by hand and made special efforts to get them displayed. The value of this promotion was easily \$15,000.

- **Major pharmacy chains** have made contributions of their own. *IDA* and *Guardian Drugstores* donated ad space on the cover of their April promotional flyers to promote Dental Health Month and the *Good for Life* symbol. *Boots* distributed Checkups at their 180 pharmacies across the country. All in all, the pharmacies provided valuable exposure and distribution.

And there's more where all that came from. Currently being discussed with sponsors: a radio information series, an adult information poster series, more publications comparable to the Checkup and the booklet. The list goes on — and so does the value to the Dental Awareness Program. Projects in the development pipeline are worth over \$500,000 more to the CDA campaign. (Watch this space for more sponsorship news as it breaks.)

Sponsorship means a lot to the Dental Awareness Program. It means CDA can do more with less. It means CDA can generate more visibility for the Good for Life message in the public arena, provide members with access to innovative patient education tools at little or no cost, develop and sustain a far-reaching national campaign to educate and motivate Canadians — without breaking the bank. We've got important information for Canadians. We owe a vote of thanks to the sponsors; they show a real and growing commitment to working with us to get that information to people who need it.

Hotel Chain Hands out Checkups

This year's National Dental Health Checkup, which hit the stands in mid-April as a supplement to *Chatelaine* magazine, has not only reached about 6,000,000 Canadians through the magazine and in drugstores — it's also been picked up by Westin Hotels. The news is that Westin has distributed copies of the current Checkup to their Toronto staff; a positive sign of growing public interest in dental health issues.

Dental Health Fact Sheets in YMCAs

YMCAs nationwide are proving that dental fitness counts. Through their newsletter, the national YMCA organization not only promoted the "Support Your Teeth" information poster, but distributed Good for Life dental health fact sheets to 225 Ys across Canada. Now that's support for teeth!

Dental Awareness on the Airwaves

Canada's national broadcast media are talking about teeth. Here's a rundown on

some recent coast-to-coast coverage generated by the Dental Awareness Program:

- On CBC Radio's Dayshift, reaching 95,400 people — a series of discussions exploding popular dental health myths and misconceptions.

- On CBC-TV's Middy, reaching 317,000 people — a four-part series of interviews on gum disease, cosmetic dentistry, adult braces, and geriatric dental health.

- On CBC Radio's Medicine Show, reaching 102,400 people — two half-hour features, one on general dental health issues and the other on restorative materials.

- On the Royal Bank Reporter Radio, broadcast on 91 stations (including CKO) for a total of 8½ million listeners — a three-part series in English and French on children's dental health, implants, and the transcutaneous nerve stimulator or "comfort machine".

Interesting Incidentals. . .

In the course of preparing articles for the Dental Awareness Program, we dig up interesting facts that will help make dental health more compelling to the public. We thought we'd include a few of them here; you might want to pass them along to your patients.

- In 1844, the Chief Justice of Canada acquitted an axe-murderer said to be crazed by a toothache. Lower courts misinterpreted the ruling and took to excusing anyone suffering from a "disease of the mouth". More and more dentists began appearing in courtrooms as expert witnesses — until 1847, when the situation got out of hand: an armed robber was acquitted in County Court on the basis of a severe underbite.

- The tooth of crime: the current head of the Canadian Society of Forensic Sciences is a Niagara Falls dentist. Not only can he — and other forensic odontologists — identify bodies by their dentition, but he can also analyse bite wounds for information about the biter!

- Only 14 per cent of those polled in a recent American survey are aware that root canal work costs less than extraction and bridgework.

Letters

PHOTOS MISPLACED

I am dismayed at what happened to the article "The role of extraction in Periodontal Therapy" in the February Journal. The proof sent to me minus the photos was in good order. The duplicate manuscript in my hands shows correct numbering of the prints. . . . how they could have gotten so confused is beyond me.

Figure 4 is actually 6.

Figure 7 is actually 4.

Figure 5 is actually 7.

Figure 6 is actually 8.

Figure 8 is actually 5.

Unfortunately the dark background does not properly show the bone levels in figures 5 & 5B.

*Claude G. Ibbott, DMD, FRCD(C)
Regina, Saskatchewan*

Editor's Note: It appears the instructions regarding the placement of the photographs were misread when they moved from the JCDA office to the printing stage. Our apologies are extended to Dr. Ibbott and to readers who found the illustrations rather confusing.

MISPLACED CAPTIONS

The Journal of the CDA has now become a publication which members really read and perhaps even "wait for" each month.

The article on "Extraction in Periodontal Therapy" — C.G. Ibbott — whilst one of the shortest, I have recently seen, had some excellent photographs. Now that I read the journal more carefully, I noticed that the captions beneath the photographs are misplaced. The result was that I re-read and re-looked several times to decipher it — and thus learned more! (so perhaps the mistake was beneficial after all)

*Dr. C. Garside, BDS, LDS
Nepean, Ontario*

TAXATION COMMITTEE CONGRATULATED

On behalf of Block Drug Company (Canada) Ltd., I congratulate Dr. Hicks and the Taxation Committee on their success in

obtaining Federal Sales Tax exemption on certain dental materials.

While we in the dental industry reap the benefits of your work, it is with gratitude that we do so. We at Block Drug express our thanks for your efforts and diligence in obtaining F.S.T. exemptions.

*J.L. Watson
Product Manager
Dental Products Division*

KUDOS TO CDA'S TAXATION COMMITTEE

Dr. Hicks and his colleagues on the Taxation Committee are to be congratulated on their successful endeavors to date, on the partial exemption from F.S.T. on Dental Materials.

On behalf of Inter-Unitek Canada, I thank them for their efforts, and look forward to continued success.

*Ronald A. Carpenter,
Inter-Unitek Canada Ltd.*

JCDA COVER DEFINITION WAS A 'MISCONCEPTION'

Although the content of the February issue was excellent with both the Book and Stockton and Preshing articles providing important information and clarifying key marketing concepts, the dictionary definition highlighted on the February cover perpetuated the misconception that the primary focus of marketing is "promoting, selling and advertising". Indeed, my article (Research: The Key to Successfully Marketing Your Practice) published in the October, 1984 issue of the C.D.A. Journal highlighted Peter Drucker's thought-provoking quotation "the aim of marketing is to make selling superfluous".

I believe that the American Marketing Association's definition: "Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organization objectives" would have been a more appropriate cover choice. Market research and relationship-building are far more important to the marketing of professional services than "promoting, selling and advertising".

It also appears that gremlins incorrectly numbered the elements of Dr. Preshing's marketing model (Exhibit II — p. 130). It is essential to assess the situation, define mission and goals and examine market opportunities before developing marketing strategies and implementing programs. I believe the correct sequence should be:

- 1 — present situation
- 2 — mission and goals
- 3 — market opportunities
- 4 — select strategy
- 5 — strategy "how to"
- 6 — revised objectives
- 7 — program mix
- 8 — implementation of program
- 9 — audit and adjust.

Although disappointed with the cover of the February issue, I was delighted with the content. Keep up the good work!

*Sheryl J. Feller
S.J.B. Management Consultants
Stonewall, Manitoba*

OBITUARIES/ NÉCROLOGIES

CRAWFORD, R.R.: A Life Member of the Canadian Dental Association, Dr. Crawford was a graduate of the University of Toronto, in 1925. He was born in 1897.

LACOSTE, S.: Né en 1957 et diplômé de l'Université de Montréal en 1981, le Dr Lacoste habitait à Napierville (Québec) au moment de son décès.

MACKAY, G.I.: A resident of Ste-Foy, Quebec at the time of his death, Dr. MacKay was a graduate of McGill University in 1957.

MAY, C.H.: Born in 1897, Dr. May was a graduate of the Royal College of Dental Surgeons in Toronto in 1923. He was a resident of Niagara Falls, Ontario, at the time of his death.

Resource Centre de documentation

DENTAL RADIOGRAPHY UPDATE

LES RADIOGRAPHIES DENTAIRES — DERNIERS TITRES

1. Albandar, J.M. and others. *Comparison between standardized periapical and bitewing radiographs in assessing alveolar bone loss*. Community Dentistry and Oral Epidemiology, v. 13, no. 4, August 1985, pp. 222-225.
2. Eliasson, S., Lavstedt, S. and Ljungheimer, C. *Changes in tooth length on radiographs after crown therapy*. Swedish Dental Journal, v. 8, no. 5, 1984, pp. 231-236.
3. Garcias, D. and Sevalle, M. *La radiologie dento-maxillo-faciale en odontologie. Les critères de qualité radiographique en odontologie et leur relation avec la technique*. L'information dentaire, v. 67, no. 18, May 2, 1985, pp. 1805-1822.
4. Goss, K. *The dental exposure normalization technique (DENT) program in Alberta*. Canadian Dental Association Journal, v. 51, no. 5, May 1985, pp. 361-364.
5. Gratt, B.M., Sickles, E.A. and Littman, R.I. *Comparison of dental xeroradiography and conventional film techniques for the frequency and significance of image artifacts*. Oral Surgery, Oral Medicine, Oral Pathology, v. 60, no. 5, November 1985, pp. 546-552.
6. Hanlon, P.M. *Radiographic considerations in pedodontics*. Journal of Pedodontics, v. 9, no. 4, Summer 1985, pp. 285-301.
7. Hurlburt, C.E. and Coggins, L.J. *Duplicating radiographs*. Journal of the Oklahoma Dental Association, v. 75, no. 1, Summer 1984, pp. 15-17.
8. Kanterman, C.B. *New role for the computer: oral diagnostician*. TIC, v. 44, no. 10, October 1985, pp. 5-6.
9. Kaplan, I. and Dickens, R.L. *Improving the diagnostic quality of radiographs by reduction*. General Dentistry, v. 33, no. 2, March-April 1985, pp. 140-143.
10. Ludlow, J.B. *Reducing the risk of dental X-ray exposures*. Journal of the Michigan Dental Association, v. 66, no. 7-8, July-August 1984, pp. 256-261.
11. Maillard, M. *Les doses maximales admissibles nous concernent-elles? L'information dentaire*, v. 67, no. 14, April 4, 1985, pp. 1295-1297.
12. McNicol A. and Stirrups, D.R. *Radiation dose during the dental radiographic techniques most frequently used during orthodontic treatment*. European Journal of Orthodontics, v. 7, no. 3, August 1985, pp. 163-171.
13. Morley, D.R. and others. *A survey of all dental x-ray machines in British Columbia using TLD chips*. Canadian Dental Association Journal, v. 51, no. 9, September 1985, pp. 683-687.
14. Moskow, B.S., Tannenbaum, P. and Bloom, A. *Visualization of the human periodontium using serial thin section contact radiography*. Journal of Periodontology, v. 56, no. 4, April 1985, pp. 223-233.
15. Osman, F. and others. *Radiographs taken for orthodontic purposes in general practice*. British Journal of Orthodontics, v. 12, no. 2, April 1985, pp. 82-86.
16. Pitts, N.B. *Film-holding, beam-aiming and collimating devices as an aid to standardization in intra-oral radiography: a review*. Journal of Dentistry, v. 12, no. 1, March 1984, pp. 36-46.
17. Schiff, T.G. and McDavid, W.D. *A new positioning device for extraoral radiography with conventional dental x-ray machines*. Oral Surgery, Oral Medicine, Oral Pathology, v. 59, no. 6, June 1985, pp. 659-661.
18. Sewerin, I. *Gagging in dental radiography*. Oral Surgery, Oral Medicine, Oral Pathology, v. 58, no. 6, December 1984, pp. 725-728.
19. Southard, T.E. *Radiographic image storage via laser optical disk technology. A preliminary study*. Oral Surgery, Oral Medicine, Oral Pathology, v. 60, no. 4, October 1985, pp. 436-439.
20. Stephens, R.G., Kogon, S.L. and Reid, J.A. *Prescription radiography. A new concept for radiation protection in dental practice*. Canadian Dental Association Journal, v. 51, no. 9, September 1985, pp. 672-679.
21. van der Stelt, P.F. *The microcomputer in the dental office: a new diagnostic aid*. International Dental Journal, v. 35, no. 2, June 1985, pp. 103-108.

22. Webber, R.L. *Computers in dental radiography: a scenario for the future*. Journal of the American Dental Association, v. 111, no. 3, September 1985, pp. 419-424.

One copy of the above articles is available at no charge from the Library to all CDA members. Non-members will be charged \$5.00. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational in the Library since February 1982, and is at the disposal of all members.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour \$5.00 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS, un système informatisé de recherche bibliographiques pour les sciences de la santé. Ajouté à la bibliothèque en février 1982, ce système est à la disposition de tous les membres.

NEW LIBRARY ACQUISITIONS

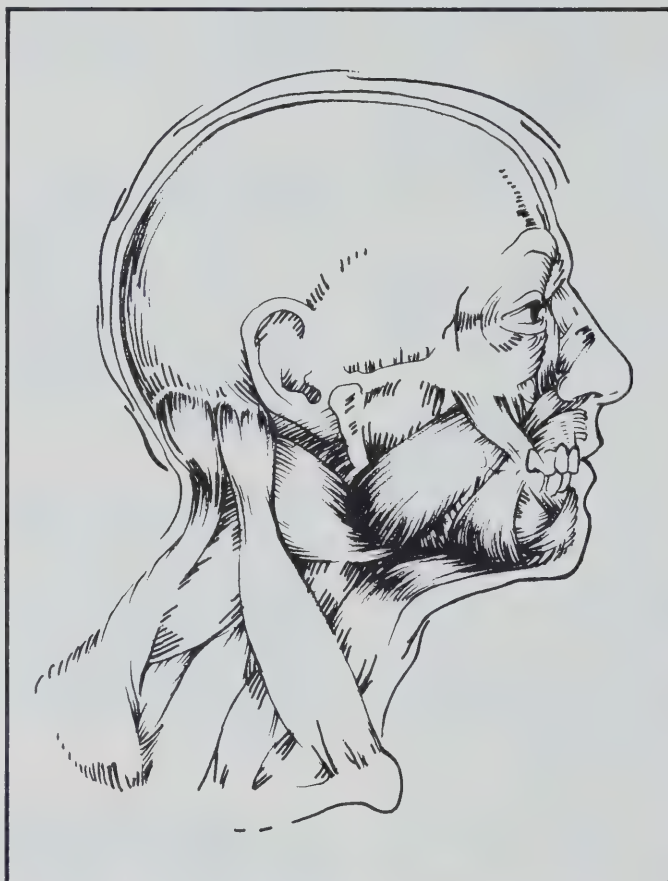
TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Nikiforuk, Gordon. *Understanding Dental Caries*. Basel: Karger, 1985. Volume I: Etiology and Mechanisms. Basic and Clinical Aspects. 303p. 1 copy. Volume II: Prevention. Basic and Clinical Aspects. 288p. 1 copy.
2. PROCOM. *Step-By-Step Guide: Producing Your Own Practice Newsletter*. Madison, Wisconsin: Professional Communications, Inc., 1984. loose-leaf. 1 copy.
3. Warfel, John N. *The Head, Neck, and Trunk*. Philadelphia: Lea & Febiger, 1985. 128p. 1 copy.

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Special Program:
DEFENSIVE DENTISTRY
New Orleans, LA
November 7-9, 1986

Book Reviews

ORAL RADIOLOGY

H. Guy Poyton

*Williams & Wilkins
Baltimore, Md.
\$32.50 US, 403 pages*

It is refreshing to read a book on the subject of oral radiology that emphasizes radiographic observations and interpretation rather than techniques and radiation dangers. Dr. Poyton's book represents a concise and methodical approach to the subject in a manner that is easily understood. The text itself is well organized and presented in a systematic manner that is enriched by Dr. Poyton's vast experience.

The book has a generous number of radiographic illustrations which are most often accompanied by simple line diagrams that serve to point out the finer observations the inexperienced reader may miss. In addition to this format being an aid to the inexperienced it is also extremely useful at chairside for the general practitioner, oral surgeon or medical radiologist who is puzzling over a current case. The quality of the photographic and illustrative reproductions are superb and at most times are well suited to the accompanying text. Dr. Poyton makes use of both intra-oral periapical, occlusal and extra-oral views in his text which is helpful to the oral radiologist and medical radiologist who often use these views. There is a general tendency to avoid the use of panoramic views in this text which may be indicative of their poorer diagnostic capabilities as compared to intra-oral films.

While most of the chapters are excellent, the section on potential dangers of radiation and means of protection and the section on the temporomandibular joint are somewhat out of date. This may be due to the tremendous volume of information on both these subjects that has been churned out in the past few years. The necessary basics on both these subjects can still be found in this text.

The index is comprehensive and easy to use but the bibliographies probably should be more extensive to allow the readers to broaden their scope should they decide to do so. The rapid reference section is an excellent idea but again could be more comprehensive.

Oral Radiology contains very good sections on those areas of interest to the dental

undergraduate and the practising dentist i.e. caries, periodontal disease, impactions, cysts, and normal radiographic anatomy and enough on the more rare conditions to make it useful for the specialist. As such this book would be a welcome and, more importantly, a useful addition to the library of those whose practice includes radiographic examination of the teeth and jaws.

*This book was reviewed by
Dr. Bob Wood
Dept. of Oral Radiology
Univ. of Toronto.*

CLINICAL MANAGEMENT OF CHILD ABUSE AND NEGLECT

R.G. Sanger
D.C. Bross

*Quintessence Publishing Co.
Chicago, Ill.
\$64.00 U.S. — 168 pages*

This is a good reference book which presents the material in a logical and sequential manner. Chapters 1 – 6 have categorized in an excellent format the areas relative to diagnosis of child abuse and the statistics that have been included, although relative to the U.S., are indeed alarming for the various types of abuse.

The Chapters from 7 – 10 are very informative and the question one must ask is whether or not the professional who examines the abused child in his private office is the best one to deliver comprehensive care beyond the emergency situation or the documentation of the suspected problem. I feel that such cases, whenever possible, should be referred with the parents or guardians to a multi-disciplined treatment centre where the problem can be dealt with in its entirety.

The atlas section which is included is a worthwhile addition although I would have liked to have seen it done in colour. The injuries which are depicted would be much more dramatic and would have done more justice to the text.

Chapters 11 and 12 which deal with the legal implications are of particular interest since many practitioners may be reluctant to become involved because of the potential repercussions. Some insight into the cultural practices of various ethnic peoples has also been given. In a multi-cultural society this is important from a practitioners' point of view so as not to be confused or classified

as child abuse. Rather, when the occasion presents itself, the practitioner should be prepared to educate people re: current customs rather than to alarm the persons with the possible child abuse condemnation.

One might feel that Chapter 17, The Dentist as a Child Abuser, need not be written, and yet various provincial/state licensing boards are confronted from time to time with this complaint. The reality of practice is on occasion a trying experience and so the inclusion of this section as a reminder does serve a useful purpose for all practising professionals.

In conclusion, "Clinical Management of Child Abuse and Neglect" is certainly a book worthy of reading by any professional and perhaps its only drawback is that of cost for a paperback, \$64.00 U.S., which translates into \$85.00 Canadian.

*This book was reviewed by
Dr. Norman Levine
Professor and Head,
Department of Paedodontics,
University of Toronto.*

A TEXTBOOK OF ORTHODONTICS

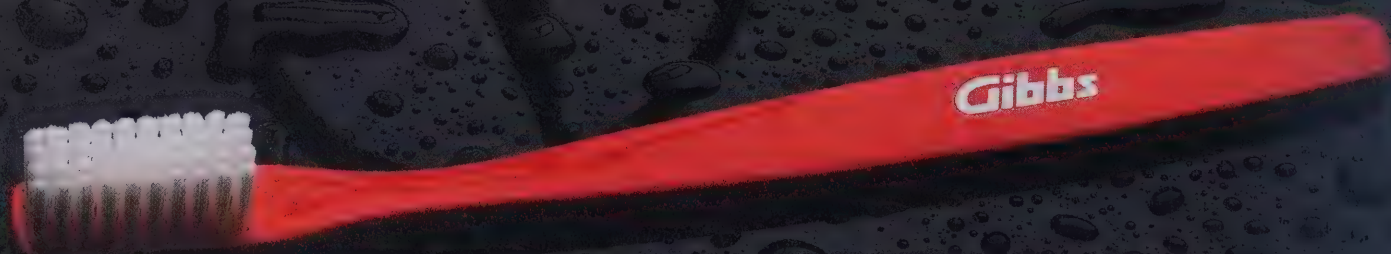
Prof. T.D. Foster

*Blackwell Scientific Publications
Oxford, England 1982
374 pages*

"A Textbook of Orthodontics", 2nd Edition, by Professor T.D. Foster of the University of Birmingham, is one of the best of its kind to be presented in recent years. This volume is designed for under- and post-graduate students and offers a review of the literature to the present time as well as a logical approach to orthodontic theory and practice. The chapters are so well organized that the practitioner has a "refresher course" readily available for his convenience.

Of particular interest to this reader were the first seven chapters, which examined post-natal growth of the skull and jaws and proceeded through occlusal development and the varied factors that contribute in this area.

The author acknowledges that the main purpose of the text is "to give an understanding of the background of orthodontics". In this 2nd Edition there has been an updating in coverage of cephalometrics



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and of the use of fixed and removable appliances.

The general principles of treatment therapy are presented but specific appliance techniques are not considered here. The classification of malocclusions is reviewed very thoroughly.

This textbook is ideal for ready reference in both the general practitioner's and the specialist's office. It is well put together and easy to read and understand. As a special bonus Prof. Foster's honesty comes through in his non-dogmatic approach to orthodontics as a science.

*This book was reviewed by
K.L. Hargadon, B.A., D.D.S.
Past-Sec. Treasurer,
Canadian Assoc. of Orthodontists.*

SYSTEMIC DISEASE FOR DENTAL STUDENTS

T.J. Bayley
S.J. Leinster

John Wright and Sons Ltd.
Bristol, England — 372 pages
\$24.50 U.S.

One of the frequent complaints of students and their teachers is that the students don't read. This is partly due to lack of time because of a heavy academic schedule, and

also because of the enormous size of the textbooks.

The authors of this small book have tried to solve this problem by compressing the field of internal medicine, as it pertains to dentistry, into less than 400 pages.

They have done an admirable job. The text is divided into 19 chapters that cover the principle aspects of internal medicine. The text is illustrated with a generous number of clinical photographs and sketches. The book is well written. Technical terms are explained to the reader as they appear in the text, thus avoiding the constant need to refer to a dictionary, which sometimes deters students from intelligent reading. The margins of numerous pages have clinical points, presented in such a way that they stand out, making the student's task easier.

Unavoidably, in a book of this size, the descriptions of the various diseases are short, sweet and to the point.

In résumé, the authors have accomplished what they set out to do, which, as they state in the preface, was to present a syllabus "to help students know what was expected of them". I recommend it highly to our dental students.

*This book was reviewed by
Dr. William B. Donohue
Associate Professor
Division of Oral Pathology
Faculty of Dental Medicine
University of Montréal*

EXERCISES IN ORAL RADIOGRAPHIC INTERPRETATION (2ND ED.)

Robert P. Langlais
Myron J. Kasle

W.B. Saunders Company of Canada
Toronto, Ontario
\$27.50 (Cdn.) 199 pages

This is a very interesting and enjoyable self-teaching book. Learning dental radiology is a lifetime work that begins with the background of understanding the basic science courses of anatomy, physiology and pathology so that in looking at a radiograph one can picture what the normal appearance should be and how it can be altered by both the physiologic processes and disease.

This book is one that can be recommended to dental students and practitioners alike, to review at home on their own time and at their own rate of speed. It gives them the opportunity of seeing numbers of cases that wouldn't ordinarily be encountered in everyday practice.

In the second edition some of the original films have been replaced with better ones and some of the reproductions have been electronically modified to improve on the information to be illustrated. A new chapter has been included of review questions for national and state board examinations.

On many occasions the authors will ask questions about the radiograph presented, in others they will give a history and tell the story of the patient, i.e. (Fig. 4-14) Belinda Broken Bone, a 24-year-old, who has had a long history of fractures or (Fig. 5-59) Lisa Glomer, has renal problems and describes some of her medical details to augment the radiographic picture. This use of humor and the relaxed encouragement helps to make the use of this book more enjoyable.

This reviewer may quibble about some terminology such as the use of "Garre's Osteomyelitis" when we use the term "Periostitis" and the use of Shafer's term "focal sclerosing osteomyelitis" when we use the term "sclerosing osteitis". The authors also introduce some new terms such as syndontism = fusion, schizodontism = gemination, and phalangioma = the radiographic image of the patient's finger on the film.

However, putting aside these criticisms, this is a very useful book, one of three in a series of advanced radiographic interpretation books and the authors are to be congratulated on their work.

*This book was reviewed by
Dr. John Reid,
Div. of Oral Radiology,
University of Western Ontario*

GUIDE TO ANTIBIOTIC USE IN DENTAL PRACTICE

Michael G. Newman, D.D.S.
Anthony D. Goodman, D.D.S.
Ms. Sc.D.

Quintessence Publishing Co. Inc. 1984,
\$21.50 U.S.
Chicago,
194 pages

As the title of this book implies this is a "Guide" to Antibiotic Use in Dental Practice. It is not a book that you will pick up and read from cover to cover. It is an excellent reference book and contains guides in the use of antibiotics for every dental infection imaginable, as well as covering adverse reactions, clinical considerations, and special considerations such as legal implications associated with the use or nonuse of antibiotics.

I was particularly impressed by the way the authors stressed complications associated with antibiotic use and abuse. Part two of the book covers adverse reactions and part three looks into clinical considerations that have to be considered when administering antibiotics.

A section of the book is devoted to the

technique of taking and delivering a culture for testing and then testing that culture for antimicrobial susceptibility. This is one area that most general practitioners will find very useful.

There is a very useful appendix which covers such things as dosages, emergency treatment for an allergic reaction, common drug interactions, patient information for certain drugs, errors in therapy and common indications and spectra for selected oral antimicrobial agents.

The authors have acknowledged eleven other contributors who helped them with their expertise in certain areas.

I agree with the statement by Dr. Sidney Finegold, M.D. in the foreword of the book "A monograph on use of antimicrobial agents in dental practice is long overdue. On balance this monograph is accurate and authoritative. It will certainly serve as an excellent guide to management of dental infections, permitting practitioners to deal with them more effectively." An excellent buy at \$21.50 U.S.

*This book was reviewed by
Dr. H.J. Quinn, D.D.S.,
Dental Office of Health
South Peace Health Unit
Grande Prairie, Alberta*

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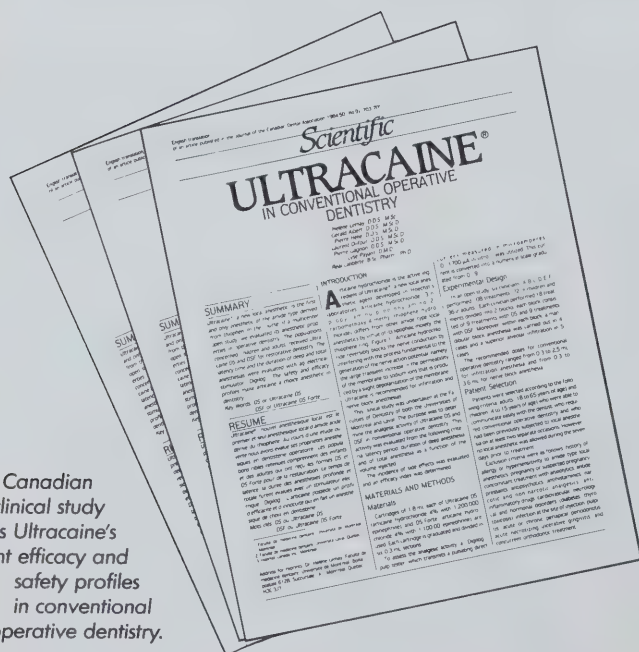
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1. Lemay et al: Ultracaine in conventional operative dentistry. *Journal of the Canadian Dental Association* 1984;50(No.9):703-708.

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Clinical Features

POSTS IN MOLARS MUST WE?

Martin Gelfand, DDS, FRCD(C)
Toronto, Ont.

Most dentists, if asked how they restore endodontically treated molars, would indicate that they use a post and core as part of the restoration. It has been accepted for many years that all endodontically treated teeth, molars and single-rooted teeth alike, must be restored with a post and core and full coverage. This is what is taught in most dental schools, and this is what we dentists continue to revere as the ultimate truth long after we have graduated. But, is it?

In 1978 Antinoff, Gulker & Kaufman¹ published a study in which 44 American dental schools were surveyed to determine which post and core techniques were being taught. They concluded that there is no generally accepted post and core design. In other words, there is no such thing as "the correct technique".

Even the rationale for the various techniques is open to question. The term "reinforcing post" or "reinforcing dowel" is frequently encountered.^{2,3,6} This concept of using a post to strengthen the root is not supported in the literature. In an impact study on endodontically treated anterior teeth, Trabert Caputo and Abou-Rass⁴ concluded that the preservation of tooth structure and the use of narrower posts provided better resistance to fracture. Lovdahl and Nicholls,⁵ and Guzy and Nicholls⁶ conducted similar studies comparing the strength of endodontically treated teeth with various posts to those with no posts. In each study those teeth without posts were either as strong as those with posts, or even stronger.

In a similar study, Trope and co-workers⁷ concluded that the preparation of a post

space in the roots significantly weakened the teeth. They further pointed out that cementation of a steel parapost did not strengthen the teeth.

Of course, common sense tells us that a casting, or a piece of stainless steel is stronger than a similarly-shaped piece of amalgam or composite. We must remember, however, that it is not the restoration alone which is being tested. It is the restoration and the root in which it is placed that is being tested, and it is the combination of restoration and tooth structure which is clinically relevant. The gold castings in these studies did not tend to break. It was mostly the *teeth* which fractured during the testing procedures.

Remember, it is the dentin that gives the tooth its strength in the same manner that bricks provide the wall of a house its strength. Remove the bricks and the wall is weakened. Remove the dentin and the tooth is weakened. It is almost impossible to prepare a post space to the currently popular depths without removing at least some dentin. This is in a root which has already suffered unavoidable dentin loss during the endodontic treatment.

There is, therefore, no way that the post preparation can strengthen a root. Placing an unforgiving, rather stiff shaft of steel or gold into this weakened root cannot reinforce anything. The research is clear. A post has one purpose only: to retain the restorative material which replaces missing tooth structure. The sole purpose of a post is retention.

Fortunately, adequate retention is usually achieved successfully with the use of posts. Occasionally tragedy, in the form of a root

perforation or split root is encountered and a tooth is lost. It is a rather disquieting fact that every time a dentist places a post in a root he or she stands a chance of creating a perforation or crack in the root. These rarely occurring unfortunate sequelae of our treatment are regarded as necessary evils, which can be avoided (most of the time) if meticulous care is taken by the operator during treatment. Are they really always necessary?

Currently it appears that metal posts are necessary for the retention of crowns in endodontically treated single-rooted teeth. For molars, however, evidence to the contrary is strongly convincing. The anatomy of pulp chambers with naturally occurring irregularities and undercuts frequently offers sufficient retention for a core without any posts!⁸ In addition to the retentive characteristics of the chamber, the root canals (and subsequent post preparations) tend to deviate from the long axis of the tooth and from each other. At a depth of only 2 to 4 millimeters into each canal, most posts would be into anatomic undercuts. Removing these posts to test for tensile strength would cause fracture of the tooth. Surely any restoration which is so retentive that its removal would crack the tooth, is retentive enough for most clinical purposes.

In molars, retention is not the problem. It is the compressive strength, the resistance of the restoration to fracture under the forces of mastication that is crucial. These chewing forces which have been shown to be approximately three times greater than opening forces,⁹ can cause fracture of a restoration, the tooth, or the cement bond. A number of rather pertinent studies deal-

ing with the compressive strengths of various techniques for restoring endodontically treated teeth have been published during the last six years.

Nayyar and co-workers¹⁰ at the Medical College of Georgia treated 400 endodontically treated molars with post and cores composed entirely of amalgam. Post spaces of only 2 to 4 m.m. were prepared in each canal. Amalgam was then packed into the prepared spaces and the entire post and core system was built up with amalgam. This study was conducted by dental students on clinic patients. At the end of four years no failures attributable to the post and cores were reported.

Hoag and Dwyer¹¹ completed a laboratory study in which the compressive strength of various post and core systems was measured. One half of each type of restoration was tested while covered with full crowns; the other half was tested directly upon the core material. They concluded that the key factor in the compressive strength was a well-fitting crown with a 1 m.m. ferrule, or collar, on tooth structure.

Nayyar and co-workers^{11,12,13} also published a number of in vitro studies dealing with the comparative compressive strengths of various restorative procedures on endodontically treated teeth. They concluded that the "coronal-radicular amalgam" post and core is as strong as any other post and core.

In a similar study, Gelfand and co-workers¹⁵ concluded that an amalgam-only or composite-only post and core buildup was as strong as any other type, provided the final restoration consisted of a full crown with at least a 1 m.m. ferrule on solid tooth structure.

Another very relevant observation was noted by Gelfand and co-workers and Nayyar and co-workers.⁸ In all of the samples tested with a parapost or a casting, the roots of the tooth were split during the testing procedures. This phenomenon

was not found in any of the samples restored with the coronal-radicular amalgam or composite technique. The clinical implication of this finding is of great significance. When a parapost or cast post restoration fails, the likelihood of tooth loss is high because of root fracture. If, however, the restoration is built up entirely of amalgam or composite, the likelihood of tooth loss is low. These teeth can usually be restored again after failure!

There are many advantages to the coronal-radicular amalgam technique. Canals need only be prepared to a depth of 2 to 4 m.m. reducing the chance of perforation and root fracture significantly. The technique is easy to learn and relatively inexpensive. The final restoration is as retentive and resistant to the forces of mastication as any other type of restoration. If it does happen to fail it can usually be repaired without the loss of the tooth. This technique is as effective as any other technique but is considerably safer. Considering the high degree of safety and effectiveness, shouldn't you at least look into it?

Detailed information regarding technique and rationale may be found in the following article: Nayyar, A., Coronal-radicular buildup for endodontically treated teeth. Clinical Dentistry, Vol. 4, Chapter 26, pp. 1-26, 1984.

Dr. Gelfand is an endodontist in Toronto. The foregoing was presented as a Table Clinic at the Academy of Dentistry Winter Meeting in Toronto, November 27, 1985.

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Specialty Features

TUPILAKS, SCRIMSHAW AND NETSUKES

G.H. Sperber
Department of Oral Biology
Faculty of Dentistry
University of Alberta
Edmonton

"Two gates the silent house of sleep
adorn:
Of polished ivory this, that of transparent
horn".
Aeneid, Virgil.

Ivory as a medium of artistic expression is of particular interest to dentists who spend much of their clinical time carving dentine, more commonly known as ivory, in pursuing their therapeutic objectives. The origin of the artistic carving and engraving of animal ivory obtained from tusks and teeth is lost in the mists of antiquity, probably predating the paleolithic ivory statuettes of Aurignacian culture (circa 18,000 BC). This medium of artistic expression is, however, now rapidly disappearing as the sources of ivory are being destroyed by mankind's devastation of the natural environment. Hence the existence of the long-established forms of ivorian arts known as tupilaks, scrimshaw and netsukes becomes more rare with each passing decade. While these peculiarly identifiable forms of carvings and engravings might still be expressed in bone, horn, soapstone and even wood, it is ivory alone that has engendered the most highly artistic and characteristic exemplars of these three forms of identifiable cultural portrayal.

Sources of Ivory

Ivory may be obtained from the tusks and teeth of a variety of animals, most of which are now on the endangered species list. Elephant (*Elephas* or *Loxodonta*) incisors,

commonly known as tusks, provide the most abundant quantities of ivory (Fig. 1). Hippopotamus tusks once provided a harder variety of ivory than that of elephants, while the canines of walrus (*Odobenus*) are one source of marine ivory. Whale teeth of both the sperm (*Physeter catodon*) (Fig. 2) and killer (*Orcinus orca*) varieties were once the source of abundant ivory which is now rapidly diminishing. While killer whales possess an interdigitating set of approximately forty homodont, haplodont teeth, the sperm whale has these simple, recurved teeth in the mandible alone. About 54 large cone-like mandibular teeth fit into pits in the maxilla. Their structure is dentine (ivory) with a layer of cementum and a thin cap of enamel at the apex of the cone. These teeth are curiously the only set, since no "deciduous" teeth precede them, making them a monophyodont dentition. Another rare source of ivory is elephant seals' (*Mirounga*) teeth, while most rare of all is the single tusk of the male narwhal (*Monodon monoceros*) (Fig. 3) as a source of carving material.

Polished surfaces of ivory show a pattern of light and dark diamond-shaped areas like an elongated checker board. This unique and identifying feature of ivory is due to the orderly arrangement of dentinal tubules that pass in regular sinuous curves across the thickness of ivory. The surface appears light or dark according to whether light strikes convexities or concavities of groups of curved tubules. It is by this characteristic feature that genuine ivory can be distinguished from any other sculpture medium.



Figure 1 Set of tusks (lateral incisors) of a young elephant (*Elephas maximus*). The right tusk is worn shorter than the left. Elephant tusks are the most abundant source of ivory.

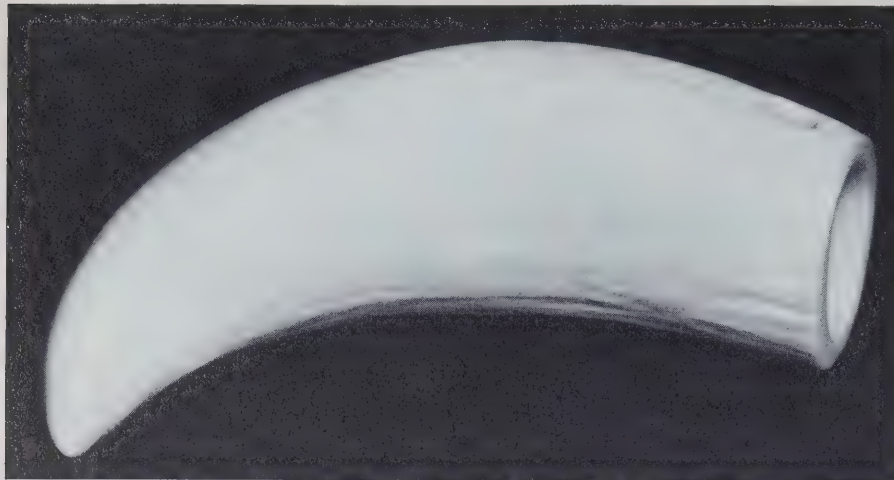


Figure 2 Sperm whale (*Physter catodon*) tooth. Note the tiny apical cap of enamel and the ridged cementum covering the major portion of the recurved conical tooth.

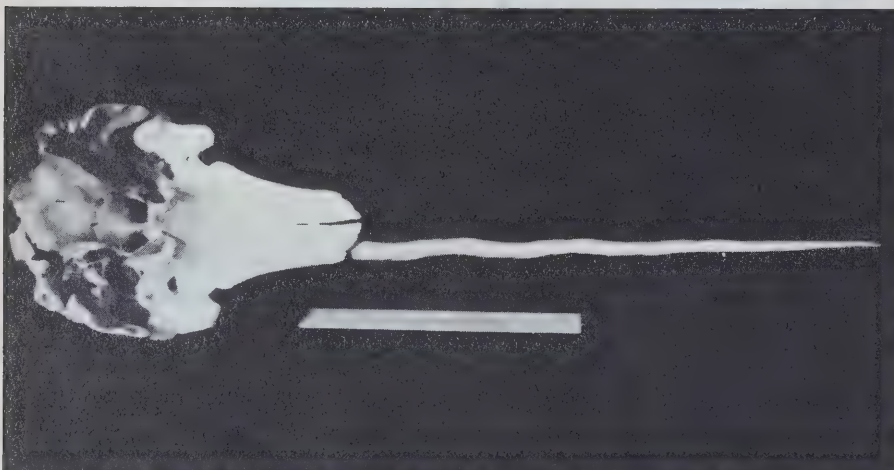


Figure 3 Tusk (left lateral incisor) of a male narwhal (*Monodon monoceros*). These single tusks can attain a length of 10 to 12 feet and are characterized by their spiral grooves.

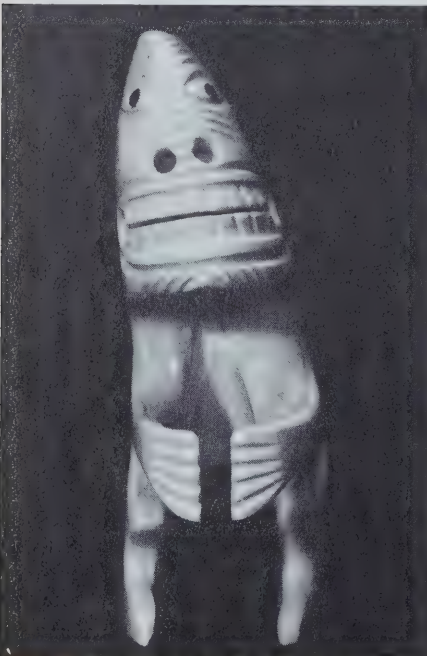


Figure 4 A clasping tupilak. Note the carving accommodates the hollow pulp chamber.



Figure 5 Double-faced tupilak. Note the central pulp chamber, and the demarcation of the outer cementum and inner dentine. The cap coincides with the tooth cusp.

Tupilaks

Tupilaks are mythical creatures or beasts of Greenland Eskimos (the Katladlit) created from the teeth of sperm or killer whales that confer upon them their peculiarly curved conical shape. The tupilaks were made by the Greenland Inuit (Katladlit) to protect themselves from enemies and evil things, and were created to scare their enemies to death. To protect its master and owner, the tupilaks were made to assume the form of many different arctic animals (**Figs. 4-9**), acquiring their various skills. Thus, the mythical creatures had the ability to swim like a walrus, have the power of a polar bear and fly like a bird. The creators of the tupilaks embodied the different animals' forms of attack in carving their mythical creatures. Occasionally, tupilaks were made with two heads, doubling the thinking and attacking capacity of the tupilak. The tupilaks were believed to obey orders from persons with a knowledge of the supernatural world, not necessarily shamans, but a knowledge possessed commonly among the Inuit. If a tupilak received orders from two persons, it obeyed orders from the person with the more powerful will. Nowadays, tupilaks form a special folk art of Greenland Inuit that is increasingly rare. Canadian Inuit ivory carving differs markedly from that of the Katladlit in portraying animals in their natural form (**Fig. 10**).

Scrimshaw

"The little bit . . . of ivory on which I work with so fine a brush as produces little effect after much labour".

Jane Austen, 1816.

Scrimshaw is the ornamentation of shells, ivory and bone by engraving, with the art being most characteristically created on sperm whale teeth, the favourite medium for etching. A sperm whale's haplodont teeth are coated with heavily-ridged cementum, except for the apical enamel tip, that was filed and scraped off to gain access to the underlying softer ivory that was polished smooth before being "etched". The term "etched" used by scrimshanders is not the acid process ordinarily so-called; it is the term used for the engraving technique to create their designs.

The engraving tools consisted of jack-knives, sail needles and chisels. To highlight the etched, or more correctly, engraved design, lampblack, soot, charcoal or India ink was rubbed over the surface. Tobacco juice was sometimes employed to give a sepia effect. The completed, inked engraving was polished with whale oil and china clay, pumice powder or sailmaker's wax and canvas. A small wooden stand was occasionally made to display the scrimshawed tooth.

The peak years of scrimshaw art coincided with the zenith of the whaling industry, in the 1830's to 1850's, when the teeth and bones of sperm whales were most abundant, and the boredom of sailors on whaling ships sparked artistic endeavours that concentrated on marine scenes (Fig. 11). Scrimshaw was one of the earliest peculiarly American folkcrafts, being practised most widely by the New England whalers. Today, scrimshanders are forced to substitute materials such as beef bone, shells, vegetable ivory and plastic for real ivory.

Netsukes

Netsuke, a term of Japanese origin, loosely translated, means "root attachment", referring to the carved ivory toggles that the absence of pockets in the kimono made a necessary functional part of Japanese attire. Their origin can be traced to the Muromachi period (1336-1568), when netsukes were toggles made of uncarved wood, bone or stone, attached to a cord tucked under an obi sash, from which were suspended keys, water gourds, money pouches and later, tobacco pouches.

Netsukes became a status symbol in the late 18th century, their style and value reflecting the position and wealth of the wearer. The frequent depiction of the Buddhist image (Fig. 12) arose from an imperial edict (circa 1605) against Christians, requiring Buddha's image be placed in every home. Other popular images included allegorical depictions of longevity (Fig. 13). Common to all netsukes are tunnels between two holes at the back of the figure through which the belt cord is threaded when the netsuke is worn as a toggle (Figs. 14, 15).

The art of netsuke carving reached its zenith during the first three decades of the nineteenth century, then declined with the arrival of Commodore Matthew Perry in Japan in 1853. The introduction of western clothing with pockets replaced the kimono, and cigarettes replaced pipes, nullifying the need for netsukes. The abolition of sword-wearing in 1871 — the very heart of samurai tradition — removed the tradition of the netsuke as a formal part of Japanese apparel, and reduced their importance to the status of collector's items.

Perfume or Cocaine Containers

Many other forms of ivory carvings exist which form a whole subset of collector's items. Among such articles are perfume or cocaine containers, elaborately carved and decorated (Figs. 16-18) to reflect their precious contents.

Summary

Tooth carving that is so much part of a dentist's training and clinical practice has been executed by sculptors and engravers



Figure 6 Tupilak ingesting two fish whose tails project from his mouth.



Figure 8 Tupilak holding a frightful face. Note the central pulp chamber and cementum peripheral to the dentine.

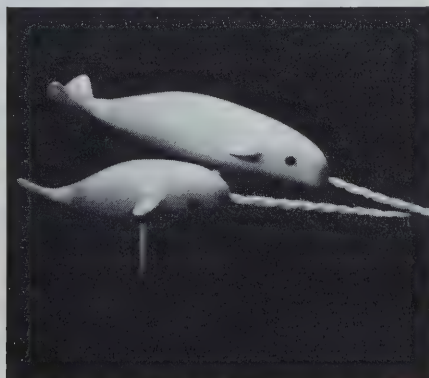


Figure 10 Canadian Inuit ivory carving of two narwhals, complete with their tusks.



Figure 7 Tupilak holding polar bear head. Note the central core of secondary dentine in the former pulp chamber.



Figure 9 Tupilak holding a fanged face.

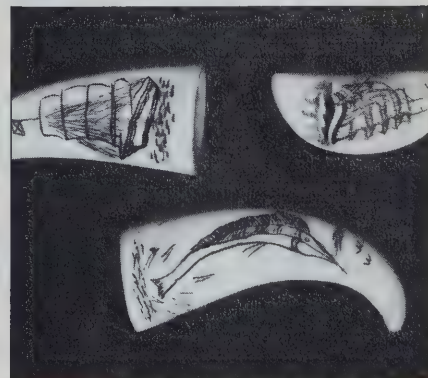


Figure 11 Three examples of scrimshawed sperm whale teeth depicting marine scenes.

on animal's teeth in the form of ivory for many centuries. Different cultures have given rise to a variety of artistic forms of expression on dentine, exemplified in this article by Greenland Eskimos (tupilaks), American whalers (scrimshaw) and the Japanese (netsukes).

With the decline in the supply of ivory, these forms of artistic expression are becoming increasingly rare, as is the tooth carving known as drilling by dentists as the incidence of dental decay decreases.

Acknowledgements

Appreciation is expressed to Jonassie Oarqortoq, H. Osborne and M. Kinsey for reference material; to Douglas Marston for his photography and to Jennifer Leckelt for wordprocessing the manuscript.



Figure 12 Netsuke ivory figure.



Figure 13 Netsuke ivory figures portraying omens of longevity.



Figure 14 Back of netsuke depicted in Figure 12 showing tunnel holes for attachment to a belt cord.



Figure 15 Back of netsuke depicted in Figure 13 showing tunnel holes for attachment to belt cord.



Figure 16 Carved ivory perfume or cocaine container.

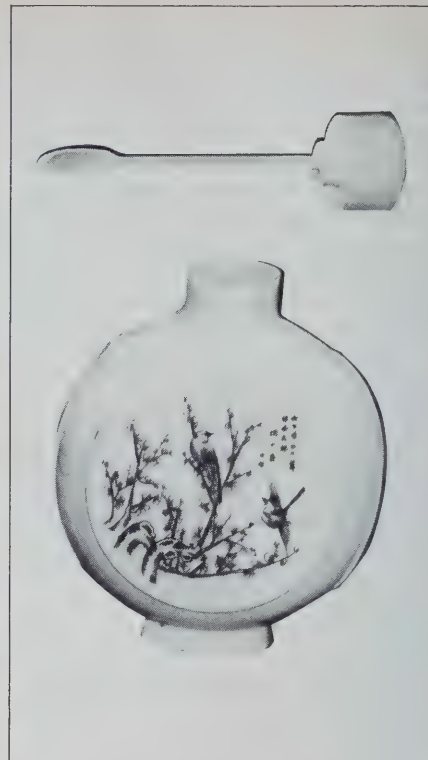


Figure 17 Scrimshawed ivory container showing spoon for dispensing contents.



Figure 18 Carved and painted ivory container with removable head with attached spoon for dispensing contents.

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Dr D.E. Barmes, DDS, MPH, Chief, Oral Health, World Health Organization
Switzerland

Proceedings: Joint Conference on Prelicensure

Late in February 1986, the Canadian Dental Association, the National Dental Examining Board and the Canadian Fund for Dental Education sponsored jointly a Conference on Prelicensure. The Conference, held in Montreal, Feb. 24-25, 1986, featured speakers from many parts of the world, discussing the background of prelicensure in the medical and legal professions, and the implications of a prelicensure year for Canadian dental professionals. The *Journal of the Canadian Dental Association* presents here, the first of a series of the proceedings of the Conference. In this issue, and in the June 1986 issue, the entire proceedings of the Conference will be published as an exclusive to this *Journal*.

Conférence sur le stage post-doctoral — compte rendu —

Les 24 et 25 février, l'Association dentaire canadienne, le Bureau national d'examen dentaire du Canada et le Fonds canadien pour l'enseignement dentaire ont coparrainé une conférence sur le stage post-doctoral (la pré-autorisation d'exercer). Tenue à Montréal, cette conférence réunissait des experts de différentes parties du monde qui ont discuté du stage post-doctoral tel qu'il est imposé en médecine et en droit, ainsi que des conséquences qu'entraînerait pareille obligation pour les étudiants en médecine dentaire. Dans ce numéro, nos lecteurs trouveront la première partie du compte rendu de la conférence. Ce compte rendu complet de la conférence est une exclusivité du *Journal de l'Association dentaire canadienne*.

*Presentation at the Joint Prelicensure
Conference, Montreal, 24-25 February
1986*

The overall concept of health for all by the year 2000 and its components, such as the primary health care endeavour to minimize inequality of services and access, the drive towards appropriateness of services and manpower and the aim of removing individual cost as a barrier to health, have a special meaning for oral health because, I believe, we have a clearer picture of where

we are and what we might contribute to the future than most other health sectors. As early as 1969 the basic contrasts for dental caries were mapped in our Global Oral Data Bank and gave arithmetic dimensions to the widespread impression that the disease was destructive in the extreme for populations in highly industrialized countries and far less intense, though possibly increasing, in developing countries. Slowly, but surely, the picture became more complete with at least initial data for more than two-thirds for the world's nations and territories and several sets of data for a con-

siderable number. Thus, by 1974, it was clear that an increasing trend in dental caries prevalence for developing countries was changing the main contrast between developing and industrialized countries.

By 1978, it was equally clear that the opposite trend, suspected as early as 1973, in highly industrialized countries was bringing about an even more fundamental change in the global picture. It was a noticeable feature of these two trends, that both where caries prevalence was on the increase, and where it was decreasing, there was a clustering around the level of 3 DMF teeth at 12 years, the age at which most data had been collected and a strategic age, as it approximates the end of primary schooling. Whether this was a true "crossroads" at which the undesirable trend could be halted and at which the desirable trend had exhausted its potential was not clear. However, despite that lack of clarity and an even greater uncertainty about periodontal disease, the 3 DMF "crossroads" provided us with a golden opportunity in 1979, to establish a global goal for the year 2000 which has proved to be more and more meaningful over the ensuing years.

Though there is still considerable doubt about the prevalence, prevention, sequelae and care of periodontal disease, I believe the picture is very much clearer than it was even five to 10 years ago. For measurement of the main indicators of the more common forms of periodontal disease, we now have the Community Periodontal Index of Treatment Needs (CPITN). This measurement method is not by any means the last word on monitoring periodontal conditions. Nor is its use likely to outlast by much, if at all, this century. However, the main reason why CPITN may not last long is likely to be

success, not failure, in what it has shown and will show us, namely that the high prevalence levels of periodontal disease recorded for a number of communities, particularly in developing countries, relate to bleeding and calculus, rather than to the more destructive forms of the disease. A corollary of this revelation is that oral hygiene can prevent most of what we are measuring. I firmly believe that oral hygiene has brought about large reductions in bleeding and calculus in highly industrialized countries. Thus oral hygiene becomes the main explanation for the large difference in CPITN scores for developing and highly industrialized communities. Beyond that, CPITN has indicated that scores for deep pocketing behave somewhat independently of cumulative CPITN scores, i.e. bleeding or higher score, or calculus or higher score, and of availability to the community of periodontal care. More and more evidence is accumulating to show that loss of teeth above 30 years or even above 50 years is not closely related to any of the indicators measured in the CPITN or other common measures of periodontal disease.

All these aspects taken together suggest that:

A. Oral hygiene will continue to reduce the bleeding and calculus scores in highly industrialized communities and will vastly change those scores in developing countries, provided those communities accept good oral hygiene as a normal behaviour pattern. These changes will be adequately monitored by CPITN.

B. New, more specific detectors of the destructive agents in periodontal disease will eventually replace CPITN which will no longer be needed for scoring the largely eliminated gingival bleeding and calculus.

C. New, very specific preventive and care procedures will relate to the specific destructive disease detectors.

In the light of these trends and expectations, I exhort you to think more deeply first about the highly industrialized countries such as Canada and then to spare a thought for the other 75 to 80 per cent of the world's population. Most highly industrialized countries once experienced, over several decades, caries intensity of the order of six to 12 DMF teeth per 12 year old. By 1980 our population weighted estimate of the average for such countries was about 4.5. By 1986 our estimate is about 3.5. That estimate depends on what data is available from those countries and, on average, those data are five to six years old. They, therefore, underestimate the extent of the trend at this moment. Based on the more recent data we have or about which we have been advised, our guesstimate would be between 2.5 and 3 for 1986 and still falling.

Once these levels of caries are reached we are in the area of almost exclusively pit and fissure caries, much of which is extremely slow to extend or is even arrested. We are in the era of masterly inactivity or sealants, rather than intervention using rotating instruments. The backlog of those who experienced much higher caries intensity in their youth remains, but diminishes every year and, by now, the ripple effect is reaching towards the fourth decade of life in many communities and up to a decade further in a select few.

It is also important to remember that, with a number of unfortunate exceptions, developing countries can be kept at those low caries intensity levels without the backlog we know in highly industrialized countries.

Add to all this the effects of good hygiene on bleeding and calculus, our growing doubts about periodic, professionally administered prophylaxis and our hopes for a breakthrough in prevention of destructive periodontal conditions, and you have the scene which surely compels us to use every possible opportunity, to prepare ourselves, our institutes, our associations and our governments for fundamental change in oral health services and personnel.

Let us turn now to the manpower situation in relation to what we have seen of the epidemiology of the main oral diseases. As happens all too often in health services, we seem to have got it all wrong. There are three people living in developing countries for every one in highly industrialized countries and oral disease prevalence has been increasing in the developing countries but decreasing in industrialized countries. Yet there is only one dentist or operating auxiliary in developing countries for every three in industrialized countries.

The contrasting situation of highly industrialized countries and developing countries, so different in oral disease experience and trends and yet joined in an undesirable bond of inappropriate manpower in quantity and type, is central to the whole of oral health globally. It seems that no matter how well known the problem is, insufficient action is being taken to achieve a remedy in time. Instead we see a rapidly growing surplus of dentists and insufficient study of the primary health care strategy in industrialized countries which might lead to rational plans, not only for numbers of personnel involved in oral health, but also for more appropriate blends of various personnel categories. At the same time we see a growing inadequacy of personnel in many developing countries and an unnecessary, growing irrelevance due to adherence to those very services and personnel structures which are now inappropriate for the highly indus-

trialized countries and are tragically inappropriate for the developing countries.

If we look at the traditional practice of dentistry in terms of what is done to the patient, we can subdivide the various tasks into low, moderate and high technology activities. Though much high technology has been used to develop preventive methods, their actual application and the patient or population education that goes with them, can be considered to be in the low technology category. Prophylaxis, one might contend, ranges from a low technology procedure at its simplest application to moderate technology in its more extensive forms. Then there is a whole range of moderate technology procedures spanning all the normal restorative procedures short of inlay, crown and bridge procedures and including simpler forms of orthodontic and prosthetic care. Lastly, we come to the high technology procedures of precision orthodontics, precision prosthetics and surgery.

It is the moderate technology range of tasks which has consumed most of the efforts of the profession until today, and the changes that we see have selectively reduced the need for precisely those tasks. The effect of that reduction is to push existing dental personnel towards either low or high technology activities. The contrasting problems arising from this effect are, on the one hand, the non-use of many skills possessed by dental personnel and, at the same time, a certain inappropriateness for the actual low technology tasks and, on the other hand, a lack of special training to suit them for many of the high technology tasks.

In terms of volume, low technology tasks should remain at least constant and could even be intensified. The high technology area is likely to increase for a considerable time in relation to the aging of populations, and due to an increasing awareness of, and desire for oral health, as the common oral diseases of childhood and youth diminish and intact dentitions are preserved further and further up the age range. Eventually, however, the progressive improvement in oral health is likely to reduce the extensive individual needs of even the elderly.

If all this discussion seems to relate more to highly industrialized rather than to developing countries, it is well to note that a number of basic elements are the same for both. Though there is much variation among developing countries in relation to oral health status and trends, the need for emphasis on the low technology, preventive and self care procedures or simple intervention is the same. Aging of the populations in developing countries is occurring, if not to the same extent as in highly industrialized countries, nevertheless, to an extent which is important for oral health

care strategies. Where low levels of caries remain or are being regained, the moderate technology procedures should not represent a great volume in the distribution of tasks. High technology procedures, on the other hand, have been largely unavailable in developing countries and the time has come to recognize that oral health awareness and aging of the public as well as the need to provide quality restoration and rehabilitation, if any such services are to be available, mean that such procedures will have to be given higher priority.

So pervasive are these changes at present and for the foreseeable future, that the whole fabric of dental manpower production needs to be reshaped even to the extent that personnel should be qualified in flexible skill packages, serving the need to have very different profiles for dental personnel as the decades pass. Responses to all these winds of change should keep in mind WHO's basic model of a leading edge of primary health care with a preventive emphasis, supported by two or more levels of referral, essentially at the moderate and high technology levels. Much, if not most, of the primary health care level tasks can be handled by non-dental personnel and moderate technology tasks can be performed by operating dental auxiliaries,

though it is up to each country to make its own decisions on how the variety of tasks are distributed. At the high technology level I see the need for more of an 'oral physician' than the present day dentist; one that will be a full member of the team of physicians responsible for all health. The 'oral physician' would not only be responsible for high technology care but would guide the whole oral health sector in terms of primary health care activities, mainly at the low technology level, and first referral programmes and tasks at the moderate technology level.

There is another dimension of development in all this change, which is the broadening of the role of personnel involved in oral health and use of the oral health network at all levels from primary health care to the ultimate referral level and in all systems and structures. If we are measuring oral health status, which we do so well, and if there are gaps in other health services, as there are, there is surely good reason for oral health to accept a responsibility for measurement in selected areas of care deficiency. If we are as capable as events have shown in health promotion and education why not expand the message and preventive activities to these other health areas, perhaps including minimal inter-ventive, surface measures equivalent to

applying sealants or superficial scaling? Extending the chain from the primary health care level to referral levels and consistent with the oral physician concept, there are surely certain inter-ventive tasks beyond surface measures which oral health personnel should perform in a rational system of health delivery. Those gaps relating to hygiene, nutrition, function, safety and a broader range of diseases will occur in different combinations and to varying extents from country to country so that the concept would be implemented differently according to the situation. However, the principle is the same and the whole initiative could be practised from the positive contact, enjoyment or quality of life standpoint, rather than the scare and repair attitude which characterizes so much of the health endeavour.

This Conference is about prelicensure. I do not know if it will consider relicensure or how far it will consider curriculum matters in general or the broader spectrum of categories that could be involved in oral health. Whatever is its scope I think there is enough in the international trends of which I have spoken to indicate the need for innovation and initiative in responding to an oral health situation which is changing at a bewildering rate.

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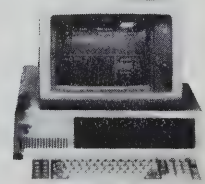
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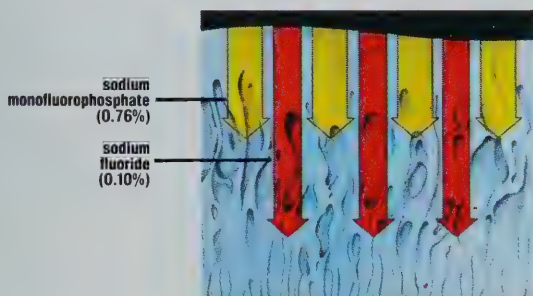
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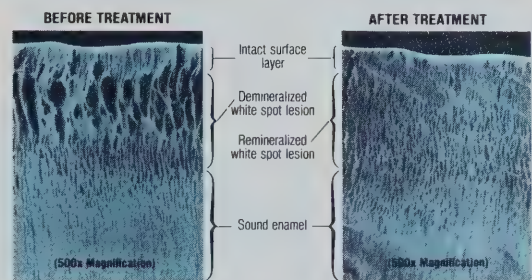
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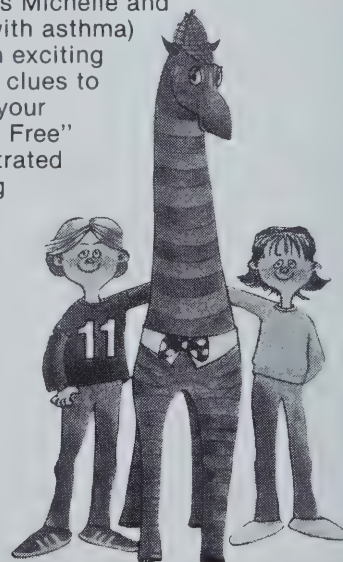
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MEDICAL LICENSURE

AN HISTORICAL AND THEORETICAL PERSPECTIVE

D. Laurence Wilson, M.D.

First of all, we must ask ourselves why there should be a need for licensure in both our professions. The answer is obvious. Our patients place themselves in our hands to receive services whose quality they are seldom able to judge. "Caveat Emptor" could never in our society be an acceptable principle in the fields of dentistry and medicine.

The need for some generally accepted formal qualification or licensure has been evident from early times — and that need becomes more significant as biomedical knowledge becomes of increasing practical significance — as the difference grows between a trained and an untrained practitioner.

For an historical perspective in medical licensure let us take Ontario as an example, since it is the province I know best.

Relevant legislation in this part of Canada goes back to 1788, when Upper Canada was still part of Quebec and an ordinance was passed to prevent anyone from practising physic and surgery without a licence from the governor or commander-in-chief of the province.

The first really effectual step to provide some scrutiny of practising physicians was provided by "An Act to Licence Practi-

tioners in Physic and Surgery" in 1818. Under that legislation, the Governor was to appoint a licensing board of five or more members. The first act incorporating the medical profession of Ontario was passed in 1866, but with the coming of Confederation, that act was repealed and the Ontario Medical Act of 1869 created the present licensing body, the College of Physicians and Surgeons of Ontario.

Under our legislation, the College of Physicians and Surgeons of Ontario is charged with three responsibilities: to set educational standards for licensure; to carry out the licensing of physicians and surgeons; and, to serve a disciplinary role, overseeing the competence and ethical standards of practitioners.

The ruling body of the College is a 27-member council made up of 16 members elected by the medical profession on a regional basis, 5 university appointees, and 6 lay members appointed by the Lieutenant Governor in Council. Lay members have been part of this council for almost 20 years.

The College in turn is responsible, along with the other self-governing professions — dentistry, nursing, pharmacy and optometry — to the Lay Health Disciplines Board to which its rulings can be appealed.

Licensure from a theoretical point of view

Central to licensure is, of course, the possession of an acceptable medical degree. And the need to define a list of "acceptable" degrees leads us into the accreditation of degree-granting institutions. Accreditation of North American medical schools has been carried out with increasing rigour for the last eight decades.

For some years Canadian and American medical schools have been accredited by common standards originally set by an American body, the Liaison Committee on Medical Education (LCME), in which Canadians participated. Today we have our own Canadian body called the Committee on Accreditation of Canadian Medical Schools (CACMS), which follows the same criteria as its American cousin and whose accreditation teams involve American participation. The standards of accreditation of Canadian and American schools are reasonably explicit and carefully followed. These are the only medical schools about which we have detailed knowledge. And for this reason, graduates of Canadian and American medical schools are — quite properly I think — perceived as requiring less scrutiny than graduates of medical schools elsewhere, to which we will refer in this discussion as

Graduates of Foreign Medical Schools (GOFMS).

It is worth noting that we do not speak of them as foreign medical graduates, since they may well be Canadian citizens who have gone abroad to study — usually because they could not find places in Canadian schools.

Obviously, the training offered in foreign medical schools may vary astonishingly from schools whose standards are indistinguishable from our own, to degree factories of unconscionable quality. In Ontario we insist as a minimum that a degree be held from a medical school listed in the W.H.O. directory — but since listing in the directory does not involve regular inspection to assure adherence to high standards, the directory lists many inferior schools.

I cannot argue as carefully as I might wish for the critical importance of the quality of undergraduate medical education, but I hope you will accept my strong conviction that a physician's pre-medical and medical education — the formative years of his clinical training — are of crucial importance in determining not only his ability to pass licensing examinations, but also the quality of his approach to patients and the important capacity to continue a program of life-long learning which will help him to keep pace with rapid developments in his field.

Having paid my respects to the importance of basic medical education I must now point out that the M.D. degree alone does not qualify anyone to practise his profession. I don't think any medical educator today believes that it is the job of the medical school to turn out embryo general practitioners, or embryo surgeons, or embryo ophthalmologists. Rather it seems to me to be the job of the medical school to teach the student to understand the principles of pre-clinical and clinical sciences and to learn a program of self education that he can follow, not only through his graduate training but through his entire professional life. If we succeed in that job, we shall be delighted — but we should not think for a moment that the newly minted medical graduate is ready for independent practice.

This will require a varying period of carefully planned and supervised internship and residency training designed to teach him the practical application of the art and science of medicine, while at the same time, enlarging the scope of that knowledge itself. A feature of this postgraduate clinical training must be careful in-training evaluation, with written reports on the trainee's progress and competence, regular feedback to the trainee, and a final report to the licensing body.

The final component of licensure involves examinations external to the medical school. In Canada, these examinations —

called the Medical Council of Canada qualifying examination (MCCQE) are set by the Medical Council of Canada, a body established by the Canada Medical Act in 1910.

You may or may not be surprised to hear me express the opinion that in many ways these examinations are the least important component — following, in my estimation, well behind the importance of sound pre-medical and medical undergraduate training and sound postgraduate education. I am not sure that the public understands this point, for often we are accused of discriminating against doctors from abroad who come into Canada but are not allowed to sit the qualifying examinations because they have not been able — for whatever reason — to complete the necessary pre-registration training. But it is important to realize the limitations of formal examinations. None of us who have participated closely in professional education can help but be impressed with the limitations of even the most carefully designed examinations.

They are blunt instruments indeed. Of course they serve to screen out the hopelessly incompetent candidate with an inadequate information base. But by no means does the passage of a qualifying examination guarantee that the student has been supervised and scrutinized in the practical application of the science of which he has demonstrated a reasonable theoretical knowledge. Perhaps I can illustrate my point by looking at the M.D. degree itself. This is not based on a set of final examinations. It is granted to a student on the basis of the successful completion of a carefully planned and structured course of studies and a series of planned evaluations done course by course and year by year.

No reputable medical school would suggest that someone who had not studied there, might nevertheless be allowed to try its 4th year final examinations, and, if somehow successful, might be granted a medical degree without ever having participated in the undergraduate curriculum! By the same token, the qualifying examination for licensure can logically be regarded as a final step open only to those who have completed the prerequisite educational experiences.

So far, we have been talking about the "general licence" which permits the holder to carry on any form of practice within his competence. There are other forms of licensure in all jurisdictions. In Canada, a physician requires an educational licence while undertaking internship or residency training. In addition, there are special forms of licence giving restricted privileges of practice under special circumstances. For example, a visiting professor coming to teach in Ontario for a six month period could be

granted a special licence for that restricted period without examination.

Now let us turn to the actual procedures currently in use in Ontario. These differ, depending upon whether the physician has graduated from a school in Canada accredited by CACMS/LCME — or has graduated from a foreign medical school. Let us deal first with graduates of Canadian and U.S. schools. Such graduates are entitled immediately to an educational licence which permits internship or residency training in Ontario. They are also entitled to write the MCCQE any time after graduation. A general licence will be granted following successful completion of that examination and of a pre-registration internship. The design and content of an acceptable internship is set out by the licensing body.

In some jurisdictions, a second year of specified post-graduate training is required and there is, in Canada, a general perception that one year of postgraduate work is not enough for licensure.

Graduates of foreign medical schools not accredited by CACMS/LCME must follow a more complicated route (even if they are Canadian citizens and residents who went abroad to study medicine). They must, first of all, pass the Medical Council of Canada Evaluating Examination (MCCEE) before they can be granted an educational licence to undertake graduate training in Ontario. This is a 2½ day multiple choice examination in clinical science and some basic science, which can be taken at 25 sites abroad or at any medical school in Canada.

The pass rate of graduates of foreign medical schools on this examination (which is a simplified Medical Council of Canada qualifying examination) is less than 50 per cent. They then need two years of internship and residency training, one of which must be taken in Canada. After this, they will be granted permission to sit the MCCQE qualifying examination. If they are successful (and the pass rate for GOFMS is about 82 per cent — as compared with 96 per cent for graduates of Canadian schools) they will have qualified for a general licence.

In practice, licensure of graduates of foreign medical schools is more difficult than the bare ground rules would imply, simply because it is hard for them to obtain the necessary Canadian year of pre-registration internship. In Ontario, the number of funded internships and residencies is closely controlled by the Ministry of Health. And the numbers are now very little above those needed by graduates of Canadian medical schools with whom they must compete for positions. Secondly, the Ministry of Health in Ontario will rarely endorse visa applications for foreign nationals to take internship and residency training, with the exception

of U.S. citizens where they are influenced by the long tradition of interchange between the two countries for postgraduate training.

So far, we have been talking of formal licensure as carried out by a typical provincial licensing body. For the sake of completeness, however, I should point out to you that there are other processes which, de facto, serve a licensing function.

The first of these is the specialty examination. We have, in Canada, as you may know, a long tradition of specialty training under the aegis of the Royal College of Physicians and Surgeons of Canada.

The training programs themselves are based at Canadian medical schools. The content and conduct of the programs and the processes of evaluation have evolved over many years and are highly respected internationally. In general, in order to qualify as a certified specialist in internal medicine or paediatrics or thoracic surgery for example, the medical graduate must undertake four to six years of graduate training, with careful in-training evaluation all along the way, and then pass a qualifying examination which is likely to have both written and oral components. Such qualification is accepted by most provincial licensing bodies in Canada as a prerequisite for the doctor calling himself a "specialist" in internal medicine, or whatever.

Any physician is free to limit his practice to any field of medicine which he considers within his competence, but he cannot call himself a "specialist", nor can he collect specialist differential fees from the provincial medicare plan, without the Royal College qualification.

In more recent years, the College of Family Physicians of Canada has set up analogous programs for the training and certification of family practitioners. These programs last two to three years, again concluding with a certifying examination.

This is a more controversial area and the programs are sufficient to train only about 50 per cent of those doctors who go into general or family practice, the remaining doctors preparing themselves by means of a rotating internship, perhaps with periods of additional training in fields in which they are particularly interested.

Next, we must realize that hospitals exercise a de facto form of "licensure", inasmuch as they generally require specialty certification of physicians who apply for hospital staff privileges in any field other than general practice — with the proviso that in a good many hospitals some general practitioners may be granted privileges in anaesthesia and in obstetrics and gynaecology.

Thus, although any physician in Ontario who holds a general licence is theoretically

entitled to pursue medicine, surgery and midwifery, in practice he will not be able to obtain access to engage in the more technical or specialized forms of practice, unless he gains additional qualifications.

Let me comment about two problem areas. The first of these has to do with the mystique of the "general licence". In principle, licensure is designed to assure the patient that his doctor is qualified to treat him. But in fact, although the public is reasonably well served by the collective rules and regulations which we have in place, surely it would be more logical to withhold licensure until the medical graduate has completed his necessary postgraduate professional training. Instead, if we take the case of a would-be ophthalmologist, he can receive a general licence after a rotating internship although he requires three or four more years of training before he can pass the examinations of the Royal College of Physicians and Surgeons of Canada to obtain his certification. The crux of the problem lies in our failure in Canada to date to prescribe clearly the postgraduate professional training required of the general or family practitioner.

Years ago, it was assumed that a medical degree and a year of internship would produce a sound general physician. Today, very few of us believe this to be the case. But we have evolved an anomalous situation where the specialist is required to take four or five years of postgraduate training whereas the generalist may still get away with as little as one; and yet, I believe — the majority of us believe — that the general practitioner has just as difficult and exacting a job to do as his specialist colleague and that he needs, on the average, just as much training.

There is a strong movement afoot to standardize training for family practice in Canada. If we do see the day when we have accepted a single qualification for the generalist as we have — at least outside of the province of Quebec — for the specialist, I believe we may well decide that it would be more rational to limit graduates to an educational licence until they have completed training for some one or other specific form of professional practice.

Finally, we have a great deal of discussion in our profession, as I am sure takes place in dentistry, about continuing medical education to help the physician keep up with the onrush of biomedical knowledge. Various mechanisms have been devised to help to ensure that practitioners do keep up, but the subject is too complicated to treat here. So far, although the idea of re-examination and re-licensure has been discussed it has been rejected as impractical.

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NOTICE

MEMBERSHIP ELIGIBILITY CHANGES

The Interim Board of Governors recently met in Ottawa and approved the following changes to membership eligibility criteria.

LIFE MEMBERS

Effective for 1987 eligibility for Life Membership has been simplified. Requirements are reduced to a dentist requiring forty years of CDA membership and being currently a member in good standing with the licensing authorities. CDA membership years include CDA student membership.

ASSOCIATE MEMBERSHIP

Resulting from many misunderstandings with its eligibility criteria this CDA membership alternative has been eliminated.

Members previously joining as an Associate member will now apply for Supporting Membership.

SUPPORTING MEMBERSHIP

This category has been expanded to cover the needs of dentists applying for a reduced fee membership.

The criteria is intended to cover, upon application, retired dentists (non licensed) who wish to continue their support of the Association until Life Membership eligibility is met **AND** persons other than dentists wishing to support CDA's endeavours. However, licensed dentists with mitigating circumstances are also considered. Applications must be made to Executive Council who ratify all Supporting membership requests.

STUDENT MEMBERSHIP

The criteria for CDA Student Membership has been expanded to include Canadian citizens attending out-of-country dental faculties recognized by CDA. At this time such recognition is limited to faculties accredited by the American Dental Association.

AVIS

MODIFICATIONS TOUCHANT LES CRITÈRES D'ADHÉSION À L'ADC

Lors de sa dernière assemblée intérimaire tenue à Ottawa, le Conseil d'administration a agréé les modifications suivantes touchant les critères d'admission à l'ADC.

MEMBRES PERMANENTS

À compter de 1987, les exigences pour être permanent de l'ADC seront simplifiées. Il suffira pour un professionnel dentaire d'avoir été membre de l'Association pendant 40 ans et d'être, au moment de sa demande, membre en règle de son ordre professionnel.

Les 40 années d'adhésion requises comprendront les années d'adhésion comme étudiant.

MEMBRES ASSOCIÉS

À cause des nombreuses confusions touchant les critères pour cette catégorie, il a été convenu de la supprimer.

Les membres associés pourront continuer à se joindre à l'Association comme membres de soutien.

MEMBRES DE SOUTIEN

Cette catégorie sera plus large et regroupera les dentistes qui veulent se joindre à l'Association à un prix moindre.

Y seront admis les dentistes à la retraite (n'ayant pas le droit d'exercer) qui désirent continuer à donner leur appui à l'Association jusqu'au moment de pouvoir en devenir membres permanents **ET** toute personne qui, sans être dentiste, désire appuyer les efforts de l'ADC. En outre, l'Association prendra en considération les demandes adressées par les dentistes qui voudront faire partie de cette catégorie pour des raisons particulières. Le Conseil exécutif ratifiera toutes les demandes adressées à l'Association par ceux qui veulent en devenir membres de soutien.

MEMBRES ÉTUDIANTS

Pour les membres étudiants de l'ADC, les critères ont été assouplis afin de pouvoir comprendre les citoyens canadiens qui effectuent des études dans des écoles dentaires situées à l'étranger mais reconnues par l'ADC. À l'heure actuelle, les seules écoles dentaires de l'étranger reconnues par l'ADC sont celles qui sont agréées par l'Association dentaire américaine.

CDA'S GOVERNORS REPRESENTING CANADA'S DENTISTS

LES MEMBRES DU CONSEIL D'ADMINISTRATION DE L'ADC REPRÉSENTANT LES DENTISTES DU CANADA



Dentists in the Yukon and Northwest Territories are represented either by their maintaining a provincial license or by the Federal Government representatives who sit with the Association's Board of Governors.

Health & Welfare
Veterans Affairs
Canadian Forces Dental Services

William R. Bedford
Julian C. Tsafaroff
James N. Wright

(Students in Canadian Dental Faculties are represented at CDA Boards; present incumbent is Sam Sgro, McGill University.)

Les dentistes du Yukon et des Territoires du Nord-Ouest sont représentés par l'ordre provincial dont ils détiennent le droit d'exercer ou par des représentants du gouvernement fédéral qui font partie du Conseil d'administration de l'ADC.

Santé et Bien-être social Canada
Affaires des anciens combattants
Service dentaire des Forces armées canadiennes

William R. Bedford
Julian C. Tsafaroff
James N. Wright

(Les étudiants des facultés de médecine dentaire du Canada sont représentés auprès du Conseil d'administration de l'ADC. Leur représentant actuel est M. Sam Sgro, de l'Université McGill.)

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References: 1. Schutzbank SG, Galaini J, Kronman JH, et al: A comparative in vitro study of GK-101 and GK-101E and GK-101E in caries removal. *J. Dent Res.* 57:861-864, 1978. 2. Taintor JF: Dental fear: That patient problem you can solve. *Dent Student* (December 1984), 12.3. Green RE Jr, Norwood TE: Statistical Report on a Double-Blind Clinical Study Comparing the Efficacy of GK-101E Solution with a Placebo Solution As a Caries Removal Agent. Data on file, National Patent Dental Products, Inc. 4. Robbins A: A Double-Blind Comparative Study of Topical GK-101E and Matching Placebo Solutions. Data on file, National Patent Dental Products, Inc. 5. Interim Results from a Multicenter Study Comparing the Efficacy of the CARIDEX™ Caries Removal System with Conventional

Restorative Procedures. Data on file, National Patent Dental Products, Inc. 6. Pulp Irritation Study in Dogs. Data on file, National Patent Dental Products, Inc. 7. Predictive Patch Test Study (Irritation and Sensitization) in Humans. Data on file, National Patent Dental Products, Inc. 8. (a) Five-Day Multiple Application Oral Mucosa Study (Golden Hamster); (b) Primary Dermal Irritation Study (Rabbit); (c) Ocular Irritation Study (Rabbit); (d) Oral LD₅₀ Study (Neonate Rat); (f) Guinea Pig Sensitization Study; (g) Oral Range-Finding Study in Dogs; (h) Maximum Tolerated Oral Dose Study in Dogs; (i) One-Month Oral Dosing Study in Dogs; (j) Two Year Oral Dosing Study in Rats; (k) Teratology Study in Rabbits; (l) Mutagenicity Evaluation (Ames Test). Data on file, National Patent Dental

Products, Inc. 9. In Vitro Evaluation of GK-101E Solution on Normal and Partially Demineralized Tooth Structures. Data on file, National Patent Dental Products, Inc. 10. McCune RJ: Proceedings of a Symposium on Chemo-Mechanical Caries Removal; A Multicenter Study.

CARIDEX™ Caries Removal System

Description: The CARIDEX™ caries removal system consists of a chemical solution and a delivery system.

The CARIDEX™ system solution is a two (2) component system which is mixed prior to use. The two (2) components are Solution I and Solution II. Solution I is composed of sodium hypochlorite and purified water. Solution II is composed of sodium hydroxide, sodium chloride, DL-2-aminobutyric acid and purified water. Each solution is

essentially colorless.

The delivery system is designed (1) to direct the solution to the carious lesion to soften it, and (2) to permit the removal of the carious material by gentle abrasion with the applicator tip while flushing with the solution.

Indications and Usage: The CARIDEX™ caries removal system is indicated for use with conventional hand instruments in those procedures where the system's applicator tip can directly contact the carious lesion, and thereby the use of the dental drill will be significantly reduced.

This product is not designed to completely replace current dental procedures for the treatment of carious lesions, and is to be used in conjunction with hand instruments to



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reduce the use of a dental drill.

Contraindications: None known.

Warnings: 1. Avoid splashing solution in eyes. 2. Avoid exposure of solutions to direct sunlight. 3. The use of this product may increase the intake of sodium for people on sodium-restricted diets.

Precautions: 1. Discard mixed solution after one (1) hour. 2. Purge the system after every use. 3. Flush out system with water at the end of each day. 4. Open bottle(s) must be discarded within seven (7) days.

Adverse effects: Animal, in-vitro and clinical studies failed to elicit any adverse effects.

Store at room temperature.

Caution: The solutions are restricted to use with the

CARIDEX™ delivery system. Use with any other mechanical system is contraindicated and could cause damage to that system.

Patent information: The CARIDEX™ carries removal process is covered by U.S. and foreign patents.

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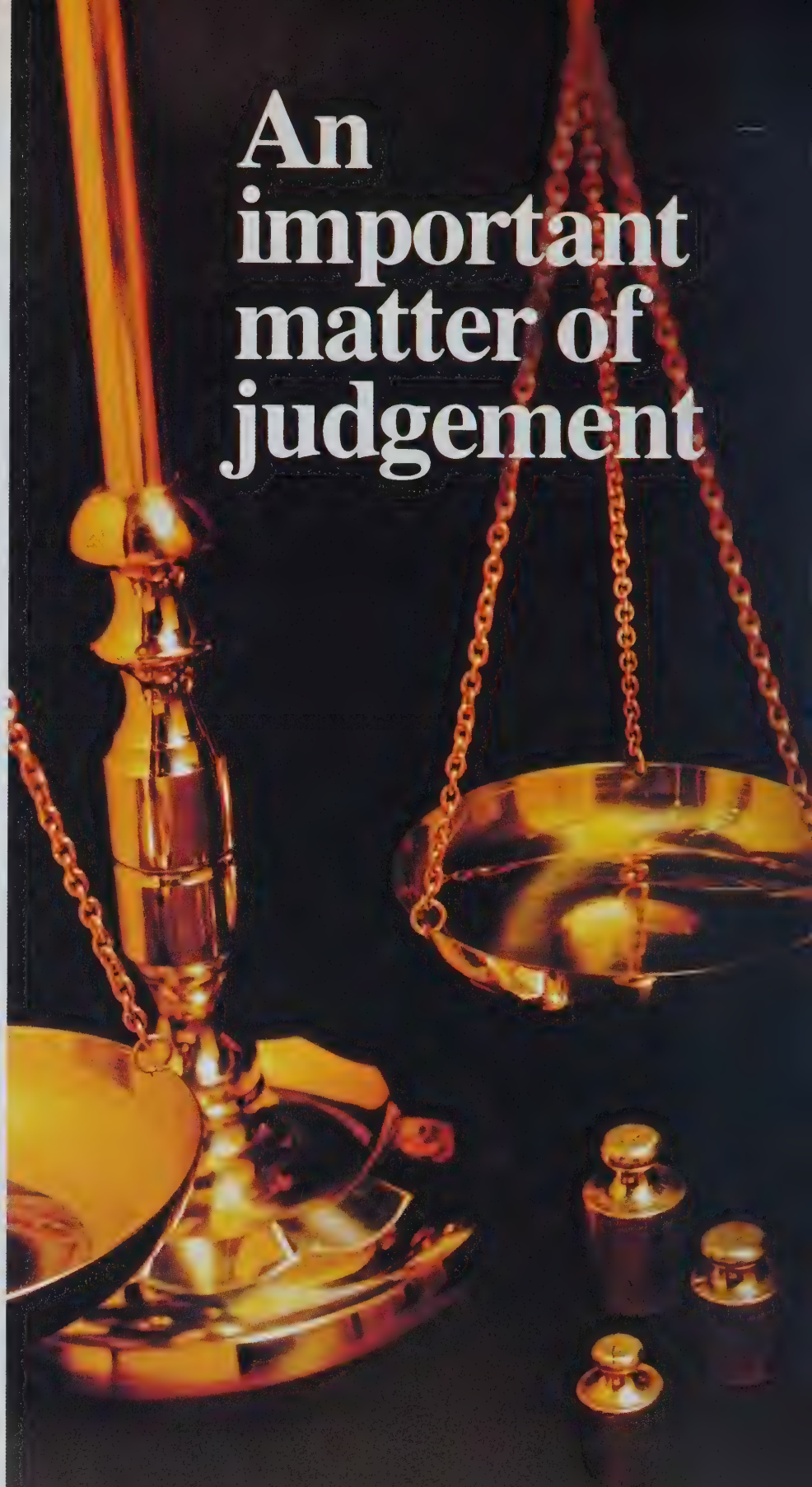
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not indicated	ANTI-INFLAMMATORY	required dosage generally exceeds analgesic/antipyretic levels and regular administration is necessary — lesser or intermittent dosage is ineffective
SAFETY		
hypersensitivity in rare instances	ADVERSE EFFECTS	GI bleeding, ulceration, nausea, vomiting, diarrhea, vertigo, tinnitus, hearing loss, pruritus, urticaria, angio-edema, anaphylaxis
slight increase in prothrombin time for patients on oral anti-coagulants but generally clinically insignificant	PRECAUTIONS	history of GI ulcerations, bleeding tendencies, anemia or hypoprothrombinemia; patients with asthma or other allergic conditions; concomitant use with anticoagulants, uricosurics, other non-narcotic analgesics, hypoglycemics, alcohol, methotrexate.
none, except rare hypersensitivity	CONTRAINDICATIONS	salicylate sensitivity, active peptic ulcer
no known risk	IN PREGNANCY	risk of anemia, hemorrhage, delayed or prolonged labour, increased risk of intracranial hemorrhage in premature infants, premature closure of the ductus arteriosus
no specific risk	IN CHILDREN	specific risk of intoxication using therapeutic dosage in febrile and dehydrated children
rare equivocal reports of reversible liver function abnormality at high dosage	HEPATIC TOXICITY	reversible hepatitis in apparent risk groups at high dosage
equivocal	ANALGESIC NEPHROPATHY	equivocal
oral anticoagulants (as above) chloramphenicol (increased half life)	DRUG-DRUG INTERACTIONS	oral anticoagulants, uricosurics, non-steroidal anti-inflammatory agents, oral hypoglycemics, corticosteroids, ethyl alcohol, methotrexate
ACUTE OVERDOSE		
potentially serious	CLINICAL RISK	potentially serious
supportive management and/or specific antidote (N-acetylcysteine)	TREATMENT	supportive management — no specific antidote

*See prescribing information page 431

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Dr. R. Ianni, University of Windsor

Early Days – 1949

— Reference in this presentation is to developments in Upper Canada/Ontario, although apprenticeship ("articles" in common law provinces; "stagiaire" in Quebec) has always been a feature of professional licensure in Canadian provinces and territories).

— Sources for this section: Thompson, "How to become a lawyer in Canada", 1979, Acorn Books, Edmonton; *Report of the Special Committee on Legal Education*, 1972, Law Society of Upper Canada; Armstrong, "The Honourable Society of Osgoode Hall", 1952. *Law Students' Handbook*, 1949-50, LSUC.

By an Ordinance of 1785 it was provided that no one should be permitted to practice as a barrister, advocate, solicitor, attorney, or proctor-at-law who had not served a period of apprenticeship for 5 or 6 years under someone duly qualified, and who had not passed an examination given by learned lawyers before the Chief Justice of the Province of Canada.

For the first two years after the establishment of the separate colony of Upper Canada in 1791, there were only two persons legally entitled to practise in its courts — one of whom was the Attorney General. The geographical bounds of the places

where the courts of the Province in those early days sat, were marked by Detroit (Sandwich), Newark (now Niagara-on-the-lake) and Kingston. Needless to say, there was the regular appearance in courts of unqualified practitioners. In 1794 legislation was enacted relating the regulations for admittance, and giving the Governor and others the power to issue licences to practice to those deemed from "their probity, education and condition of life best qualified to act as advocates and attorneys in the conduct of all legal proceedings in the Province".

In 1797 an Act was passed allowing the formation of the Law Society of Upper Canada, the object of which was to provide for the profession an organised, learned and honourable body that would better serve the public.

Throughout the first half of the nineteenth century nearly all aspirants for entry to the legal profession were without higher education, the opportunities for such education being very limited. During the mid-years of the 19th century, various arrangements were made to provide lectures for students who otherwise continued to depend upon apprenticeship for their legal training. At first the lectures were informal, available to those students who wished to attend. Later, compulsory attendance was required, and this led to the formation

of a law school at Osgoode Hall in Toronto in 1862.

In 1872 the Law Society was specifically authorised by statute to make rules for the improvement of legal education, to appoint readers and lecturers, to require the attendance of students and clerks at readings and lectures, and the passing of examinations, as a prerequisite of their admission to the practice of law. A university degree exempted the student from some of the requirements for entry to the bar. Those without university education — called "matriculants" — declined in number as the 20th century progressed. In 1939 university graduates out-numbered matriculants by 110 to 8. In 1953 the regulation permitting matriculants to become articulated students was finally abolished.

The growth of the law school portion of legal education was very gradual, and until 1949 apprenticeship was the dominant element. Although there were various adjustments in the curriculum and in the timing of lectures the basic pattern remained constant, viz. each student studied part-time at the law school each day during the school term, and served the remainder of his or her time as an articulated student. The period of service under articles was five years for matriculants and three years for graduates (Rules of the Law Society of Upper Canada, 1915).

1949 - 1957

Two major occurrences took place in 1949. Firstly, the Law Society established a new law school program consisting, for graduate entrants, of two years of full-time academic study at the Osgoode Hall Law School, followed by a third year full-time under articles, and a fourth year shared part-time in academic work and part-time serving under articles. Secondly, the

University of Toronto Faculty of Law began to offer a full-time three-year LL.B. degree program. Graduates from that Faculty were given credit for the first two years of the four-year program at Osgoode Hall.

It is back to 1949 that we can trace the existence of a period of full-time legal education as a prerequisite to entry into service under articles, and the establishment of accredited legal tuition in an Ontario university that was recognised by the Law Society,

but not directly controlled or administered by it. In 1954 recognition on a similar basis to the University of Toronto LL.B. was accorded to LL.B. degrees awarded by other Canadian universities "approved" by the Law Society.

The Law Society saw the retention of an articling period as an essential part of the student's professional education: "complementary to his work and study in the Law School". The student would learn the prin-

APPENDIX I

TOPIC	ALBERTA	B.C.	MANI-TOBA	NEW BRUNSWICK	NFLD.	N.W.T.	NOVA SCOTIA	ONTARIO	P.E.I.	QUEBEC (BAR)	SASK.	YUKON
Educational pre-requisites to entry on Bar	Minimum 2 years undergrad education*	No specific pre-law requirements but generally	Minimum 2 years pre-law recognized law degree	Minimum 2 years pre-law* recognized law degree	No specified pre-law requirements	No specified pre-law requirements,	No specified pre-law requirements,	2 years pre-law if senior matriculant (Gr. 13)	No specified pre-law requirements,	C.E.G.E.P. or undergraduate experience,	No specified pre-law requirements,	No specified pre-law requirements,
Admission Program	recognized law degree	3 years pre-law & recognized law degree			recognized law degree	recognized law degree	recognized law degree	3 years pre-law for Grade 12 graduates, recognized law degree	recognized law degree	recognized civil law degree	recognized law degree	recognized law degree
Class-room/ Course Period	4 weeks full time	10 weeks full time	one day per week Sept. - June	2 months	1 week	no course examinations in ethics, statutes & procedure	6 weeks	6 months	None	8 months	6 weeks	no course statute examination
Articling Period	12 months	13 months	11½ months	44 weeks	12 months, 3 months of which can be served prior to graduation from law school	12 months	9 months, of which not less than 2 months may be served between 2nd & 3rd year law school	12 months	9 months, 3 months of which can be served between 2nd & 3rd year law school	6 months	12 months	12 months
Is Class-room/ Course concurrent with articles?	Yes	Yes	Yes	No	Yes	N/A	Yes	No	N/A	No	Yes	N/A
Citizenship requirements	Canadian Citizen	Canadian Citizen	Canadian Citizen or landed immigrant	British subject or person who declares intention to become a Canadian citizen	Canadian citizen	None	Canadian citizen or British subject	Canadian citizen or other British subject	Canadian citizen	Canadian citizen	Canadian citizen or British subject	British subject
Other Comments	* In the absence of undergraduate studies special examinations can be taken			* Discretion to admit persons based on experience, maturity & outstanding qualities								

ciples and rules of the law in the classroom, and the practical application of those principles in the law office.

* see Appendix I: Law Society of Upper Canada: "Law Students' Handbook" 1949-50 at pp. 16-18 ("Objects of Office Training").

1957 – Present Day (Ontario)

The arrangement which is still in force in Ontario began in 1957. The universities in Ontario were invited to establish law faculties offering LL.B. degrees, and provision was made for the Law Society approving programs at common law schools in Ontario and elsewhere. The LL.B. programs are three years in duration and the normal prerequisite to entry is a minimum of two years of university work after "senior matriculation", i.e. Grade 13. After completion of the LL.B., the law graduate proceeds to a Bar Admission Course comprising of a 12-month articling period and a 6-month full-time teaching program which is administered by the Law Society of Upper Canada.

The vast majority of entrants to law school are in possession of an undergraduate degree. A significant number may also have a graduate degree. There are six law schools in Ontario universities, and 10 law schools in other provinces offering common law degrees, two of which – Ottawa and McGill – also offer civil law degrees. Four universities in Quebec offer civil law degrees only. Articling students enter into contracts – "articles of clerkship" – with lawyers ("principals") practising in Ontario.

The student is not confined to serving in articles under a private practitioner: many students article in the legal departments of corporations and municipalities, in provincial and federal government offices, and with Crown Attorneys and other public agencies. Thus the variety of experience which the articling student may obtain varies widely. Some may join large firms that practise in most major areas of the law, and offer their students a range of experience by rotating the students through different departments of the firm with the student spending perhaps 2-4 months in a particular department before moving on. There are an increasing number of specialist firms where the student's exposure will be almost exclusively to a particular area of legal practice. In smaller centres the student will often article in a general practice – doing a full range of legal work. Thus while the Law Society expresses a desire that a student under articles should perform a wide variety of tasks, including the searching of real estate titles, drafting of contracts, wills and other legal documents, interviewing

clients, handling collections, preparing trial briefs, appearing as an advocate in lower courts and before certain court officers in the higher courts and generally learning of the law in practice under the guidance and instruction of a well-disposed principal, the ideal is often *not* achieved.

It should be noted that articling students become student members of the Law Society and thereby subject to the same Rules of Professional Conduct and disciplinary sanctions by the Law Society as fully qualified solicitors. Articling students have status to appear on behalf of clients of their principal in certain courts and forums. They are empowered to take oaths and to give professional undertakings on behalf of their principals.

It is apparent that not all students graduating from law school find articles straight away. It is a matter for each firm and practitioner to decide as to whether students are hired. Many lawyers feel that articling students – who can expect a salary in the range of \$20,000 p.a. in the larger Toronto firms – do not pay for themselves in terms of the billings that they generate for the firm. Many firms use the articling year to assess whether the student should be offered a position with the firm once licensed fully.

In British Columbia, for example, where about 400 articling students per year are hired, it is estimated that between 20-30 graduates per annum from British Columbia law schools who want an articling position

in that province, fail to get one: (Cruickshank, "Professional Legal Training Course in British Columbia"). Although there are no statistics to prove it, there is a perception on the part of Ontario law students that it is becoming increasingly more difficult to find articling positions, and that students are less successful now than in previous years in obtaining articles with the kind or size of firm preferred. (Marie P. Huxter report, quoted by Yachetti, "The Views of the Practising Bar", (1983) 6 Can-U.S. L.J. 103 at p. 104). One answer to the problem is the approach that has been taken in some Australian States where the profession has established Colleges of Law offering courses as an alternative to articling so that no law graduate is denied admission to the bar because of waning employment opportunities in law schools.

(See Appendix II: "Criticism of Articling" – from Cruickshank, "The Professional Legal Training Course in British Columbia" at p. 79-80, who in turn quotes Neil Gold: "Pre-Admission Education and Training in Canada: Some Reflections and a Survey": Commonwealth Legal Education Association, May 1983.)

In all Canadian jurisdictions there are articling periods ranging from 6-13 months. Furthermore all Law Societies have Bar Admission courses involving full-time or part-time classroom instruction, successful completion of which, in addition to service in articles, is a prerequisite to licensure.

APPENDIX II

JURISDICTION	APPRENTICESHIP	COURSE
England & Wales Barrister	Yes – 1 year	36 weeks Bar Examinations
England & Wales Solicitor	Yes – 2 years	36 weeks Course & Bar Exams
Scotland	Yes – 2 years	1 academic year Scotch Law School Course plus Bar Exams
Ireland Solicitor	Yes – 3 years	25-week Course replaces Bar Exams
Australia Canberra	Yes – 1 year apprentice or 32-week Course	32-week Course replaces Bar Exams
New South Wales Sydney	No	23 weeks full-time or 14 months part-time No Bar Exams
Queensland	Yes – 1 year or 2 years	33 weeks
South Australia	Optional – Only for students who cannot get into course	35 weeks – No Bar Exams
Tasmania	Yes – 1 year	27 weeks No Bar Exams
Victoria	Optional	30 weeks
Melbourne		No Bar Exams
Western Australia	Yes – 1 year	No – 1 year restricted practice

Bar admission courses were developed for three major reasons:

- (1) To fill in gaps in students' knowledge of practice, procedure and substantive law;
- (2) To attempt to equalize and standardize the basic level of learning of each law graduate; and
- (3) To even out the disparities in practical experience and general learning about the practice of law derived from the varied articling experiences which students have received.

(See Cruickshank's recitation of Prof. Gold's remarks on the Development of Mandatory Bar Admission Programs, at p. 80-81 Appendix II.)

In Ontario the Bar Admission course is a six-month program offered at centres in Toronto (Osgoode Hall), Ottawa and London from September to March each year. A series of lectures, seminars and demonstrations are designed to give students intensive practical instruction in areas of practice and substantive law. Each subject is taught exclusively for a period of about two weeks, at the conclusion of which there is an examination before the next subject is embarked upon. For the most part, instruction is given by practitioners, members of the judiciary and prominent court and government officials. Comprehensive books of course materials are provided: significantly many qualified lawyers continue to find these materials useful as reference sources and to update their own legal knowledge long after admission to the bar.

The impression is that the courses are universally unpopular among the participants therein. Although the failure rate is low and nearly all students go on to be called to the bar in the April following their completion of the course, many find the return to school after being given a taste of life as a practising lawyer a frustrating one. Some law firms no doubt view the process as disruptive where they have decided to hire an articling student back but are deprived of his or her services for a six-month period while the course is completed.

Alternatives: The Professional Legal Training Course in British Columbia

The Professional Legal Training Course (PLTC) was put into effect in 1984. Prior to that the Bar Admission program had consisted of 12 months' service in articles augmented by an evening tutorial program with examinations. There was, as with the Ontario course, still no skill training and inadequate systematic attention to professional responsibility.

Earlier discussions at a national level on the Quality of Legal Services (1978) had sought a definition of "competence" and "incompetence" and had accepted:

"... the definition of "competence" as the state of having the abilities or qualities which are requisite or adequate for performing legal services undertaken. . ."

and
"... the definition of "incompetence" as the state of lacking the ability or qualities which are requisite or adequate for performing legal services. A lawyer is competent if he has demonstrated capacity to provide a quality of legal service at least equal to that which lawyers generally would reasonably expect of a lawyer providing the service in question."

(The Legal Profession and Quality of Service: Conference Report, 1978, p. 29)

With these definitions in mind, a special Committee of the Law Society of British Columbia commenced an extensive study of the bar admission process, from which it concluded that:

1. A full-time residential program was necessary to accomplish goals of minimum competency.

2. A new program had to be designed which would:

- a) teach students how to apply the intellectual skills which they acquire in law school to situations which arise in a legal practice;
- b) provide systematic and concentrated training in the basic skills of interviewing, counselling, negotiating, writing, research, drafting, advocacy and management, and provide the opportunity for students to practise these skills and receive feedback on their performance under the careful supervision of practitioners;

- c) familiarize students with matters relating to professional conduct and the development of professionally responsible attitudes.

3. A new program should be organized according to a real-life, transactional approach which would provide for a smoother transition from law school to law practice.

4. A new program should integrate substantive law, practice and procedure with skills and attitudes; and

5. A new program should test students according to pre-determined performance-based criteria and standards.

(Cruickshank at p. 82)

After an eight-week pilot project in 1983, a permanent plan was adopted and put into effect in May 1984.

Students in British Columbia are now required to spend 13 months in an articling position and, within that time, attend full-time at the PLTC for a 10-week session. In order to enter the PLTC a student must have an articling position, although they may start the program at the beginning, middle or end of the articling period. The course runs May-July, September-November, November-January, February-April.

Evaluation for admission to the bar is on the following basis:

1. Within PLTC

- (a) pass skill assessments in writing, drafting, advocacy, interviewing and counselling
- (b) pass a two-hour, short answer PLTC examination covering readings in eight subjects

- (c) obtain a satisfactory narrative assessment (a written appraisal on class and assignment performance) from the full-time PLTC instructor assigned to each group of students (groups of up to 15)

2. Outside PLTC

- (a) pass qualification examinations (one hour each) in four subjects not extensively covered by PLTC

- (b) obtain certification from articling principal that student is "fit and proper" to be called to the bar.

Attention is paid, as in most bar admission courses in Canada (in varying degrees) to professional responsibility and conduct and a substantive and procedural content in the curriculum. Great emphasis is also put on skills. The major skills that have been identified are:

- (a) Interviewing and counselling
- (b) Writing
- (c) Drafting
- (d) Advocacy
- (e) Negotiation
- (f) Legal Research

Nine transactions, or simulated files, act as the spine of the curriculum. Additional written materials covering substantive and procedural content, skills and professional responsibility issues are provided. The activities are built up around those files.

Although at an early stage, feedback from both students and the profession is, on the whole, positive.

Alternatives: Foreign Jurisdictions

- (i) **United States:** Only one state still has any sort of apprenticeship requirements for intending practitioners. Post-law school training is focused on "bridge-the-gap" bar admission courses which are administered by the Bar Association or Continuing Legal Education Organization in each state. Reasons for not adopting apprenticeship in the U.S. include the views that:

- trainees often do not receive the attention they need because of other demands on the time of their practitioner-mentors.

- frequently it is not partners who are the teachers, but secretaries or the most junior associate lawyers.

- even if senior lawyers do supervise, effect is limited because not all lawyers are natural instructors.

- those seasoned lawyers who are good teachers rarely have occasion/time to reflect

upon their roles, analyse their skills and design effective ways to impact them to apprentices.

— apprentices may not be exposed to the variety of legal experiences required to give proper balance to their training, either because the practices of their supervisors are specialised, or because the trainees are assigned repetitious tasks so that their time may be financially productive for the firm.
— the quality levels of techniques that the trainee learns are limited by the quality levels at which their mentors practise.

(Gullikson, "Mandatory Bar Admission Courses" ALI-ABA, 1981, quoted in Cruickshank "Bar Admission Training in the United States, the United Kingdom, Ireland and Australia", 1985 at p.20).

Cruickshank comments on the U.S. experience that the same criticisms are frequently voiced in other common law jurisdictions, but in those other countries the response has been to add supplementary training to articling rather than eliminate or improve the flawed apprenticeship training.

(ii) United Kingdom: The bar admission procedures in the three British jurisdictions — England and Wales, Scotland, and N. Ireland, are similar to those in Canada once law school is completed. Articles are usually served after the student has passed a professional training course akin to the Canadian bar courses. Thus the formal classroom training is seen as more of a "bridge" between the law school degree course and the period of articles that follows. It is felt that articulated clerks are, as a consequence, arriving at their offices knowing much more of what is expected of them, enhancing both their own experience from the articling process, and their utility to the principal. A new development is compulsory continuing legal education for all solicitors admitted after 1985, who must now attend five half-day courses in each of the three years after their admission.

(iii) Australia: Australian jurisdictions are recognized as leaders in the field of development of practical legal training. A typical bar admission course lasts for 22-30 weeks and covers specific subjects, concentrating on procedure and practice methods. The courses also focus on "current matters" which are legal files or transactions that a student pursues from start to finish: in the course of handling these simulated files the student learns lawyers' tasks, skills, and professional responsibility. In many states the practical legal training course is an alternative route to licensure from articles. In New South Wales articling has been abolished altogether. A number of the bar admission programs include a period of placement in a solicitor's office as part of the college training.

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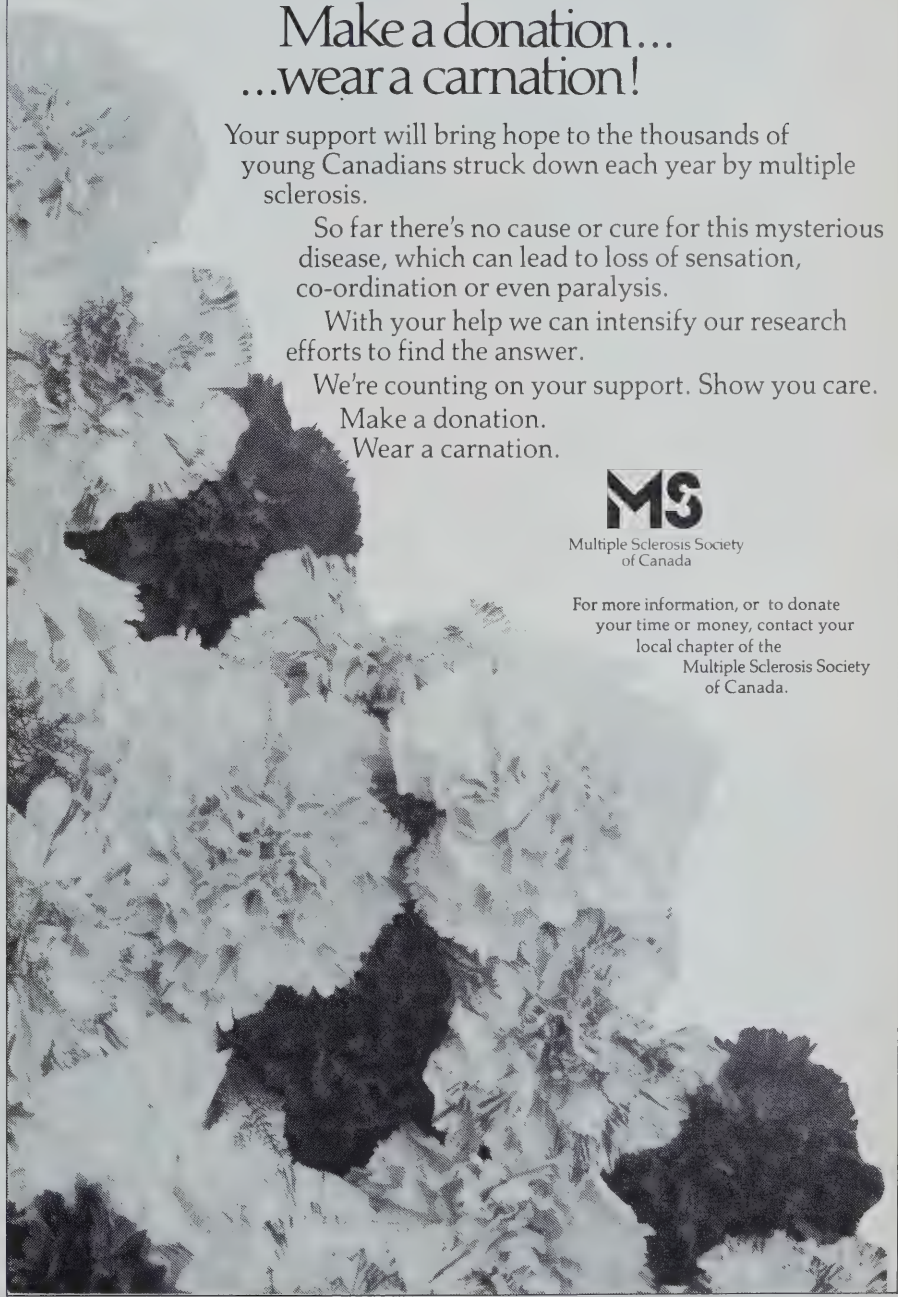
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Specialty Features

THE DENTAL PROFESSION A HISTORICAL REVIEW OF DEVELOPMENTS RE-LICENSURE AND REVIEW OF CURRENT ARRANGEMENTS FOR TESTING AND LICENSURE

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In 1868, in the thirty-first year of the reign of Queen Victoria, *The Dentistry Act* of Ontario was proclaimed into law on March 4th during the first session of the first legislature of that province. This statute was the first Dental Act to be adopted anywhere in the world. The only legislation relating to dentistry predating the Ontario Act occurred in the State of Alabama in 1841, when a section of three or four clauses was inserted in a medical bill.

The preamble to the Act sets the scene for the provisions within the statute:¹

"Whereas the profession of Dentistry is extensively practised in the Province of Ontario, and whereas it is expedient for the protection of the public, that there should by enactment be established a certain standard of qualification required of each practi-

tioner of the said profession, and that certain privileges and protection should be afforded to such practitioners: Therefore Her Majesty, by and with the advice and consent of the Legislative Assembly of Ontario, enacts as follows" (some nineteen sections).

Section 10 gave the Board of Directors of the licensing body, The Royal College of Dental Surgeons of Ontario, the authority to establish a school, appoint professors, determine a curriculum of studies to be pursued by students, fix and determine the period for which every student shall be articulated and employed under some duly licensed practitioner, and the examination necessary to be passed.

Section 11 provided that the Board of the College could hold two sittings every year for, among other things, examining stu-

dents and granting certificates of licence. Section 14 stipulated that the examinations would be held on the third Tuesday of both January and July.

Section 12 dealt with the dentists who had then not been 'constantly engaged in established office practice' for at least five years. Those in the province who could provide evidence that they had been five years or more in practice could continue, essentially unimpeded. For the less than five year group, providing they were British subjects by birth or naturalization, they were entitled to purchase a certificate of Licentiate of Dental Surgery upon passing the required examination.

Thus, 118 years ago, formal dental licensure was instituted in a Province of Canada and, except for those who had then been 'constantly engaged in established office

practice' for a period of at least five years, an examination – presumably to be successfully completed – was a condition precedent to the acquisition of the legal right to practise dentistry.

Well, what did one have to do before 1868 to practise dentistry in Ontario? Don W. Gullett, in his splendid book, *A History of Dentistry in Canada*, observed that by the 1850s, dentistry was being practised by four types of individuals:

1. Medical practitioners performed emergency services. Of necessity, practically all physicians possessed forceps for extractions and by various means attempted to relieve pain for patients.

2. A few graduates of medical schools took some apprenticeship training and confined themselves to the practice of dentistry.

3. The flamboyant type of dental practitioner arrived in urban centres, preceded by extravagantly advertised claims. These men made generous use of handbills, testimonials, and newspaper advertisements, an activity which, along with the employment of the electronic media of the mid 1980s, is being regrettably disinterred and growingly inflicted on society.

4. An increasing number of men had served an apprenticeship of varying lengths with a dentist. At first, the indentureship, as the apprenticeship document was called, was a loose arrangement, but gradually it became a rather severe legal contract between preceptor and apprentice. History, it must be observed, has a habit of repeating itself as evidenced when the wording of some of the contemporary contracts of agreement between principal and associate are perused.

In 1867, the British Parliament enacted the *British North America Act* and the Dominion of Canada was formed of Ontario, Quebec, New Brunswick, and Nova Scotia. At later dates, the other provinces joined in the confederation. In January 1867, an important dental meeting was held in Toronto attended by dentists following receipt of a letter from Dr. Barnabus W. Day, who, having articulated for six months with P.J. Sutton of Kingsbury, Quebec, had located himself in Kingston, Ontario in the late 1850s. While practising, he attended medical school at Queens University, graduating in 1862. Afterwards he continued to practise dentistry.

The purpose of the meeting was to seek incorporation of the profession. Just how many dentists were then in the province no one knows because no professional regulation existed and many so-called dentists were scarcely entitled to the name. Probably the number was in excess of 100, nine of whom attended the Toronto meeting in the Queens Hotel on January 3rd. That the meeting was remarkably successful can be

adduced from the fact that four decisions, culminating in the legislative enactment of *An Act Respecting Dentistry* only fourteen months later, were reached. First, that efforts be made to secure legislation; second, that in order to attain this objective, it was necessary to organize dentists; third, that a committee be appointed to draft a suitable constitution and by-laws; fourth, that a meeting be called for the following July, at Cobourg, to consider the report of the committee. Thus, with some 31 dentists in attendance at the July 2nd, 1867 Cobourg meeting, the Ontario Dental Association came into existence. Its first decision was to seek legislation and for that purpose a committee was appointed to obtain advice and draft a bill for consideration at a meeting to be held in January 1868 in Toronto. Notwithstanding the opposition of those who could not qualify under the bill's 'grandfather clause', the proposed statute was approved. The supporters, numbering approximately 100, marched to the legislative buildings and the bill was introduced. With some minor amendments, the statute was law on March 4th, 1868.

Dentists in Quebec quickly followed their Ontario colleagues. *An Act to incorporate the Dental Association of the Province of Quebec* was enacted by the Quebec Legislature on April 4th, 1869. Efforts to secure legislation during 1869 were unsuccessful in Nova Scotia and New Brunswick. The profession in these Atlantic provinces was to wait another twenty years for legislation.

In the fullness of time, dentistry in all Canadian provinces received legal recognition through variously-named provincial statutes all of which provided for licensure consequent upon the attainment of the requisite standards determined by an examination process. And even to this day, it is not being graduated from an approved dental educational program that confers the legal right to practise but it is the possession of evidence of having successfully passed examinations set or approved by the profession. This distinction has always been a matter of some confusion. For instance, most provinces in which there is a dental school – Quebec has been an exception – made regulatory provision for the possible acceptance of the final examinations of the province's dental school as the licensing authority's own examination. Thus, if one employs Ontario as an example, the regulations enacted pursuant to *The Dentistry Act* historically provided that the examinations of the Faculty of Dentistry of the University of Toronto may be accepted as the provincial licensure examinations of The Royal College of Dental Surgeons of Ontario. The College, therefore, did not give up the right to examine dental graduates of the University of Toronto. But the fact it did not

exercise that regulatory entitlement eventually led to the generally held view that graduation from the school – when all other requirements had been met – made licensure automatic.

In 1889, William George Beers, certainly one of the founders of Canadian dentistry, advocated the creation of a national dental association. He had pointed out the weaknesses of individual provincial policies and the advantages of concerted action on a national basis. Frank Woodbury, in 1893, the then secretary of Nova Scotia dental body, initiated a movement for reciprocity among the provincial dental organizations. In some detail he pointed out the similarities and differences in licensing requirements of the various boards. For the next ten years, enthusiasm for the organization of the profession on a national basis increased in every province. Finally, on September 16th, 1902, following the transmission of a letter from the secretary of the Quebec Dental Association, Eudore Dubeau, some 344 dentists met in Montreal. From the business sessions resulted two new national dental organizations – the Canadian Dental Association and the Dominion Dental Council, both created with great unanimity. A strongly worded resolution was passed requesting the several provincial corporate bodies of the new association to appoint one member each to the Dominion Dental Council. These appointees were to formulate a scheme of establishing a nationwide qualification for the practice of dentistry which would be acceptable to the several licensing boards. For the first time, however, there was something less than unanimity. The Quebec representatives said that although they were not personally opposed, the proposal for reciprocity of licence was reaching for an ideal too quickly. On the other hand, the president of the British Columbia Board of Examiners, unable to attend, sent a letter to the meeting in praise of Dominion registration. All the other provinces enthusiastically welcomed the objective. Now, 84 years later, it must be observed that we have not yet fully met that founding intention.

The process of organizing the Dominion Dental Council proved to be slower than anticipated. Meetings of the representatives of the provincial boards were held in both 1904 and 1905, with all provinces represented except British Columbia. The Quebec representatives observed that they could not report a firm decision from their Board, but others reported affirmation. This meant that seven of the nine provinces were prepared to accept reciprocal agreements, although two provinces, Saskatchewan and Alberta, were in the process of formation and final affirmation would be necessary by each.

The Dominion Dental Council, latterly

named the Dental Council of Canada, functioned for nearly half a century, holding annual examinations and issuing certificates that were recognized by licensing boards in seven provinces. On many occasions, the Council had made efforts to gain the co-operation of the remaining provincial licensing boards, but without success. British Columbia, on three occasions, agreed to accept the certificate, but each time withdrew after a short period. Quebec never did recognize the certificate.

On several occasions, proposals were made to have the Council incorporated by federal charter, but this step was always postponed until all the provinces were in full co-operation. Thus it was never achieved. Beginning in the mid forties, work began on a formula for a national board to which all provincial licensing bodies would agree. By a process of revision over six years, the objective was attained. An application, supported by statements of agreement from all provincial licensing boards, was presented to the federal government for an *Act to establish a National Dental Examining Board*. The legislation was passed in 1952 and shortly thereafter the Dental Council of Canada transferred all its assets and records to the new organization.

Another development concomitantly emerging as negotiations were proceeding towards the creation of The National Dental Examining Board of Canada was the institution of a mechanism for the accreditation of programs of dental education. The American Dental Association, through its Council on Dental Education, had for many years conducted a survey of dental schools in an accreditation program. This had been successful in raising standards of education and in improving the facilities. The Canadian Dental Association undertook to institute a similar scheme, and adopted minimum standards for school accreditation in 1948. Through its own Council on Dental Education (later re-named Council on Education and Accreditation) gained the co-operation of the universities with dental schools and all others concerned.

The first surveys were conducted in 1950-1951. After extended visits to each school, the team issued confidential reports of their findings to the president of each university concerned, with a copy to the dean of dentistry. After two years, a second survey was made. Invariably, the recommendations of the team had either been carried out or were underway by the time of the second visit. After it was adopted by the Canadian Dental Association, the American Dental Association accepted the final report of the Council on Dental Education. Thus, through reciprocity, dental schools in both countries achieved equivalence in accreditation.

Until and including 1970, the National Dental Examining Board of Canada conducted its own examinations for the graduates of the Canadian dental schools enjoying an approved accreditation status. But in the late 1960s, the NDEB became officially represented on the Council on Education and, as a consequence, assumed a meaningful role in the accreditation process. Accordingly, beginning in 1971, the NDEB considered it no longer necessary to mount its own examinations for the graduates of the Canadian schools. The National Board, having confidence that approved schools were meeting at least high minimum standards in their undergraduate programs, were admitting only well-qualified students, and were conscientiously and effectively evaluating their students, not on a one-time basis but indeed over the entire four years of the undergraduate program, agreed, on application, to provide the successful graduates of the approved programs with the NDEB certificates without further examination. This action, on a national level, was analogous to that to which earlier reference was made concerning the willingness of several provincial licensing authorities to accept the examinations of their respective provincial dental schools as their own.

The National Dental Examining Board, of course, offers examinations to dental graduates from outside Canada seeking licensure and to such graduate applicants of Canadian programs who did not, at the time of graduation, obtain their NDEB certificates.

To-day, in Canada, the possession of the NDEB certificate is a condition precedent to licensure in each of the ten provinces. Provincial dental licensing examinations, except for one relatively infrequent exception in British Columbia, are now history. Quebec, however, does not accept the national certificate acquired by the applicant as a consequence only of being a graduate of an approved Canadian dental school. It is necessary that such applicant present evidence of having successfully completed such portions of the actual NDEB examinations as apply to graduates of approved schools. Both British Columbia and Ontario have a five year time frame beyond which the NDEB certificate is ostensibly not registrable in those provinces. However, in Ontario, this issue has been addressed by the Divisional Court of the High Court of Justice and the five year time limit resolution of the Council has been declared to be invalid.²

Before concluding — and notwithstanding that the issue now to be addressed does not fall to the ambit of the title of this paper — another matter inextricably entwined with the accreditation process and, as a consequence, on licensure, must be considered.

Dental schools, within their total mission, must teach three things. They must teach the basic health sciences as a foundation for the professional courses. They must teach the art of the profession. And they must teach the *application* of the art. A graduate of a Canadian dental school, acquiring the certificate of the National Dental Board of Canada is, following licensure, free immediately, in solo practice, to take on all comers in the full range of dental and oral procedures. He or she is circumscribed only by such self-imposed limitations as the then existing, relatively-inexperienced, professional judgment determines. There is no period of mandatory clinical or practical experience to be acquired after the acquisition of the DDS or DMD degree and before the obtaining of the licence to practise. This has been a burden undergraduate dental education has had to bear and one which, in my respectful judgment, has been grossly inimical to the *university* status of dental education.

Neither Medicine nor Law expects its practitioners will be ready for licensure on completion of their undergraduate programs. Medicine requires the successful conclusion of a year's internship program while Law specifies several months under articles and several more months in a Bar Admissions Program. There is not the slightest thought that only successful completion of the academic preparation equips the neophytic M.D. or LL.B. for the immediate, unsupervised practice of his or her profession. Medicine certainly teaches the sciences basic to Medicine and it teaches the art of the profession. But the application of the art only minimally. One cannot help but wonder why the dental profession has expectations for its schools so different from those of its sister professions of Medicine and Law.

The acquisition of digital skills, in a broad range of technical procedures, requires repetition upon repetition upon repetition, long beyond the point when the applicable principles are fully comprehended. And the time taken to learn those skills along with the time acknowledged to be necessary at least reasonably to address the sciences basic to dentistry and the art of the profession is so profligate that there is precious little left for the pursuit of those scholarly dimensions of a *university* program which should be an integral component of any learned profession.

Let me see if I can put this concern in some perspective. Survey teams, during their accreditation visits, are rightly interested in the quality of the university's library holdings as they bear on the total needs of the dental school. But one wonders if the *utilization* of the library has ever merited the scrutiny of such teams. The best library in the world is only as valuable to the indi-

vidual as the utilization he or she makes of it. Given that, almost literally, we capture our students at 8:00 or 8:30 on Monday morning and do not release them until five o'clock or later Friday afternoon, is it any wonder that our library utilization statistics are so "underwhelming"? Fully recognizing we are by no means unique, let me point a finger at our own school. For the last year concerning which transaction statistics are available (1981) (these statistics are no longer obtainable since the Library System installed a new system in the summer of 1981 — but no alteration in the pattern is discernible) I compared our student Health Sciences Library utilization with our sister Faculties of Medicine and Nursing. Making allowances for the differences in class size, undergraduate students in Medicine had twenty times the number of library transactions and the students in Nursing had twenty-two times their undergraduate counterparts in Dentistry.

One can, perhaps, observe that if dental professors were more conscientious in loading on assignments requiring library resources this rather disquieting circumstance would not exist. But all of us are aware of the enormous additional pre-clinical and clinical load being borne by dental students, a burden which, quite simply, cannot be significantly increased. There are, clearly, insufficient opportunities for in-depth scholarly pursuits within our students' almost oppressive timetables.

There is little doubt that Canada's ten dental schools are competently assisting young people to complete their undergraduate programs with admirable clinical skills. But one must seriously question, in 1986, given that the last decade or so has witnessed such a significant growth in the numbers of persons who now perform a wide array of technical/clinical procedures both under supervision and without it, and given the remarkable reduction in the incidence and prevalence of caries, if the traditional skills' acquisition type of dental education suitable to immediate, unsupervised practice, fulfills the needs of current and future circumstances. I think not.

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and grateful acknowledgment is extended to a colleague of revered memory.

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PRELICENSURE ITS IMPACT ON RESEARCH

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I begin by stating I am generally opposed to increasing the length of time required to gain a licence to practice in North America. This statement should not, however, be interpreted that my mind is totally closed to any form of prelicensure: it is not. But I will argue that if a prelicensure year becomes mandatory, there will have to be compensatory change in the length of the undergraduate curriculum to accommodate it. There are many reasons why I espouse this argument and a number concern the impact that a prelicensure year will have on research.

There is documented evidence indicating a serious shortage of clinical investigators in this country and in the United States, and it is worthwhile exploring why this is so. One reason, I believe, is an admission process which inevitably and understandably admits those with a potential for cloning. It brings into dentistry people who have well-defined expectations, expectations which are confirmed and reinforced by the dental curriculum with an overwhelming and entirely understandable bias to produce competent professionals licensed to practice invasive techniques on human beings: and it is a curriculum which has become restrictive. The Vice-Chancellor of Liverpool University stated it best as he introduced the Nuffield Enquiry on Dental Education. He said:

"When I was invited by the Trustees of the Nuffield Foundation to be Chairman of a Committee of Inquiry into Dental Education, I have to admit that I was more than momentarily hesitant in accepting, seeing that I was not professionally qualified, either dentally or medically. It is, of course, true that I had been heard to say, more than once, that I always regarded my work as Vice-Chancellor as very much like that of a doctor — for no one ever came to see me unless he had a complaint! The connection with dentistry might seem even more tenuous. But, on a more serious reflection, it seemed to me that one could not serve a university which included large medical and dental schools without soon becoming

aware of the fact that dentistry faced very special — perhaps even unique — problems in university education. These arise in very large measure from the obligation placed by law on a dental faculty (and consequently on its teaching staff) to have so trained a dental graduate that he is fit and competent to assume complete professional responsibility immediately upon graduation. No other faculty in a university, training young people for a profession, has such a duty cast on it — not medicine, nor law, nor architecture, nor veterinary surgeons.

It was no surprise, therefore, that during the course of our Inquiry it became abundantly clear that this requirement imposes a burden on both teacher and student that is often difficult to reconcile with the aims and practices of a liberal university education.

Indeed, so demanding is the requirement for what one might call instant metamorphosis of student to dentist that teaching has become progressively more structured, more unyielding to variation or change, and more time-consuming."

It is an educational process that leaves little room to develop critical and analytical thought. Will the introduction of a prelicensure year remedy this? Maybe, but I have my doubts and there will be a price to pay.

For the few students who become excited by the process of discovery with our current curriculum — what further hurdles face them as they consider an academic career, and will a prelicensure year help them? Remember, many will already have spent three years of University; four years at dental school, two years for a diploma and about five years for a Ph.D. with little financial support. Then, and only then, at an age of thirty-three or so, will they be able to place a hesitant foot on the first rung of the academic ladder at the assistant professor rank, and it is a precarious footing for the rigorous demands for tenure must still be met. So our current system produces superbly trained and educated individuals, but it produces very few. I believe that

it is this protracted educational experience which explains why no North American with a dental degree has won the Basic Sciences award of the I.A.D.R. — an award directed to the young scientist which carries an age restriction of thirty-six! I can tell you that only a year ago there was serious discussion whether this restriction should be raised to forty — for young investigators! I remind myself that Banting was only thirty-two when he received his Nobel Prize, or on a totally different and lower plane, I was appointed full professor at thirty-five — in admittedly much easier times. Lest you think that the addition of another year will have little impact on recruitment to academe of already dedicated individuals, let me share with you events that occurred in Ontario a few years ago. The licensing body stipulated then, and still does, that to gain specialist recognition in the Province a year of general practice was an obligatory requirement before entering specialty training. I do not propose to debate the merits of this decision, but it surely affected our ability to recruit individuals into our combined specialty/Ph.D. programme, so much so that protracted intensive representation was required to obtain relief from this ordinance for students entering our combined programme.

I hope you therefore understand my concern, in so far as dental research is concerned, about any proposal that will institute a further increase in training without some accompanying accommodation to encourage and protect and provide individuals with the desire and talent to do research, especially clinical research.

But it is easy to make negative comments and I believe my invitation to speak, and my acceptance of it, demands that I be constructive. But to do so presents a problem in that I am fairly certain that all of us do not have the same expectations from a pre-licensure year. There are some who think a pre-licensure year is a good idea because they believe that the technical abilities of recent graduates has fallen and that an extra year will remedy this deficiency: I reject this

supposition until there is hard evidence to support this belief. Some of you believe that an extra year will facilitate the introduction of Board Exams for licensure; I reject this too on the basis of the American experience which does not persuade me that it improves standards — if they need to be improved. Some of you feel that the way dentistry will be practised in the future will be more as physicians of the mouth with a need for more education in a hospital setting. I have some sympathy here. Some of you believe that a prelicensure year will enable universities to swing the current balance between education and training towards more education — again I have sympathy. Given these variables a unitary solution is difficult, if not impossible, to achieve. But I am prepared to advance some suggestions for consideration, all dictated by a philosophy that the total length of education in absolute time should not be increased.

First of all I believe the current and persistent pressures to increase the length of the dental curriculum can and should be recognized. It so happens that Canadian schools generally have the shortest number of curriculum weeks in North America, the average in the United States being 152 and in Canada 130, with Toronto having the shortest curriculum of all (118)! That this is so does not worry me enormously for there are many reasons, some good, some bad, why schools have programmes of varying length. My point is that it can be argued that, with the shortest number of curricular weeks, we do have room to "flesh out" our curriculum. I suggest examination of the United Kingdom model or the medical model here in Canada, where once the student enters the clinical phase of his training, traditional University terms are abandoned in favour of a year-long commitment as dental and medical schools fulfill a service commitment. There is an obvious drawback to this proposal in that, so far as dental research is concerned, it eliminates summer studentships which are a valuable stimulant for future research workers. But such a sacrifice may be worthwhile if it can be proven that increased curricular time will permit Universities to shift their emphasis from training to education. If an increase in time can be achieved within the current four chronological years of the dental curriculum, then I believe there is a real chance of obtaining many of the differing objectives sought from a prelicensure year without adopting the traditional medical model — a model which I believe to be unrealistic for dentistry — for I do not believe we shall ever see Government support for more residencies in dentistry. Indeed the reverse is more likely and a reduction in total residencies can be predicted with some confidence, which means that any prelicensure year will

have to be self-financing and therefore unrealistic.

Therefore the question must be asked whether the objectives of a prelicensure year can be achieved within an extended four year curriculum. I believe they can, perhaps along the lines currently being implemented at Toronto where, in brief summary, we have a third year structured programme followed by a fourth year clerkship in which patient completion is the currency that counts rather than the completion of so many specific dental tasks. The reality is that we have discovered that didactic teaching is largely completed by the end of third year so that this year our students were able to write their final exams at Christmas — they still have to 'defend' their patients at the end of the academic year. We anticipate that final didactic exams will take place at the end of third year so that by 1988 our clerkship may achieve many of the objectives desired from prelicensure. I believe an approach such as this to be realistic, practical and obtainable. Whether the university degree should be awarded at the end of the third year with Board exams at the end of fourth year, or retention of the status quo — can be debated. But I do not intend to do so here. There are also curricular changes I could suggest within this model. Again I will avoid this issue as it is not my remit.

If none of my arguments are persuasive and acceptable and a prelicensure year, as an extra year, becomes a reality, then I believe the Universities will have to make changes (they should anyway) to ensure the provision of future clinical scientists. I have argued elsewhere that I believe the provision of properly trained manpower for research is hampered not only by the protracted training period but exacerbated in the case of clinical research by the fact that the collection of data in the clinical field, that is patient-based research rather than bench research, is generally more time-consuming and therefore extends the Ph.D residency. I should point out here another distinction between medicine and dentistry. In medicine much clinical research training is done under the umbrella of service in a hospital setting. Dentistry is a private practice profession and clinical research is therefore more difficult to do, as dental schools are primarily educational rather than service-based, and do not possess the referral base that hospitals have.

I believe mechanisms must be found to permit faculty holding junior professorial tenure track appointments the opportunity to complete residency requirements for the Ph.D. degree, especially in the data-collection and analysis phase. If permitted, such steps would achieve earlier entry onto the academic ladder, a degree of security,

and permit and expand the amount of clinical research undertaken. Quality will be assured by maintenance of graduate school standards and a necessity one day to meet stringent tenure requirement. It is only by taking such steps that the current dismal picture concerning clinical research will be changed. And lest I am accused of hyperbole on this score, let me share some figures with you which show that in Canada in 1979 only 9.2 per cent of clinical faculty (277) held research grants and quote from the soon to be released report from the Working Group on Dental Research:

"From these data it is clear that most dental research in Canada is non-clinical and the amount of clinical research in relation to the size of the clinical staff is exceedingly small."

This is a pity for two reasons. The first, alluded to above, is that it reflects a doctrinaire approach to clinical dentistry, a belief that techniques introduced and taught traditionally represent the substance of dental education. The fact is however that relatively few therapeutic procedures or techniques used in clinical dentistry have been subjected to the rigours of good clinical trials. It is true that most of them have stood the test of time and have provided valuable service to patients but that criterion falls short of requiring scientific data from testing and comparing alternative approaches. There is, in short, a rich field of opportunity for important clinical research and clinical trials.

The second reason is that the absence of critical enquiry and a research perspective in clinical teaching means that students are short changed. They themselves adopt the posture of their role models and aim only at acquiring the skills to perform the demanding technical tasks of clinical dentistry as well as their teachers. While this goal is important it is not enough for a true professional."

Let me conclude by stating that I am of the opinion (as are many others) that significant changes in dental education and dental health care delivery are with us. It is necessary, in my opinion, that some shift in the current balance from training to education must take place so that our products may cope well with change. It is important that the healthy tension which exists between Universities (which seek to change) and the profession (which almost by definition resists change) continue and for this to occur, it is absolutely necessary to sustain enquiry so that the schools will determine what should be taught in the coming years. For this to happen the maintenance and expansion of a clinical research community is, above all else, essential, and should be given, I urge, high priority in this debate.

EFFECTS OF PRELICENSURE ON STUDENTS AND THEIR TEACHING

Liliane LeSaux

The basic idea of a mandatory prelicensure period, in the eyes of the students, is certainly an unfavorable one. After *at least* six years of university education, most students joyfully embrace the dental world outside, just to escape the confines of the dental school. Some students are tired of university life, others want to earn their first million in their first year, but most just want to be dentists making their own daily decisions. A prelicensure period would prolong and delay the day when we can finally make a decision on our own, unsupervised.

As Chairman of the CDA Council of Student Affairs, I have had the opportunity to discuss "dental school" with some twenty students over the past two years. I find comfort somehow, in knowing that most schools are battling similar problems. No one can dispute the fact that Canadian dental students are adept at certain techniques, the Class II amalgam for example. We have completed many amalgam restorations, compared to the few periodontal surgery and cosmetic dentistry cases. As the DMFT scores continue to decrease in North America, we wonder if the emphasis dental schools are placing on restorative dentistry is justified.

Are we, the dental students of today, being adequately prepared to practise dentistry in the year 2015? As dentistry evolves, will we be able to cope and stay abreast of current advances? Do we have the fundamental knowledge to recognize that one dental material is superior to another? Without the basic knowledge, how will we decide whether the latest plaque and calculus removal apparatus will be safe for the gingiva? Do we have the "education" to make rational decisions on the issues of the future, or does our "training" only equip us for today's dental practice?

It is generally agreed that recent graduates are not particularly strong diagnosticians. Some would say that diagnostic skills can only improve with experience and by trial and error. But, I think our diagnostic skills can be ameliorated in school, before graduation. The easiest way is to use "problem boxes", consisting of actual cases that were both successfully and unsuccessfully treated. The key to these problem boxes is reinforcement. After the student has seen the pre-treatment diagnostic data, he/she devises a treatment plan. If an instructor analyzes the cases with the student, using post-treatment records, the student can be made to understand the indications and contra-indications of certain procedures, why particular procedures are performed first, and what alternate treatment plans could be. On a 1:1 or even 1:3 instructor: student ratio, the message is made clear, and at least some portion of the information is retained by the student.

Some people maintain that a prelicensure period would benefit the student in terms of learning practice management. I agree. However, the fundamentals of practice management can be taught in a moderately-structured course, where "lectures" consist of questions and answers from students and professors alike, and also during informal seminar settings, where students decide what action they would take in a hypothetical office situation. Since most graduates today enter associateships, they have the opportunity to improve upon their practice management skills themselves, and also the chance to consult with their associate(s).

When I applied to the University of Western Ontario from Grade 13, the university sent me a poster, with a slogan I have not forgotten. The slogan read "Education is a

journey, not a destination". On our "journey", there are places and sites, at which we like to linger a bit longer. This is analogous to a particular facet of dentistry that may intrigue us, so much that we make time to read a little extra. There are places on our "journey" that we dislike very much and we would try to leave immediately. This is the same feeling we have for the Class V gold foil restoration. There comes a time in our journey, however, when we grow weary of travelling and want to stop and examine our travel log. After high school and at least six years of university, dental students want to slacken the pace slightly, and use their acquired knowledge. But this acquired knowledge is obviously only a foundation upon which to build. Not only will we improve ourselves through continuing education courses, but we will also learn daily by our own mistakes.

As I see it, the mandate of a dental school is to teach its students to perform basic procedures to a high degree of excellence. The students should be taught "diagnosis" so that they are able to recognize and refer a case that is simply beyond their capability as a new graduate. By discussing cases with colleagues, the former student is *still* learning, and he/she acquires the confidence and skill to undertake cases requiring more difficult treatment.

I hereby suggest, that our educational journey will continue with or without a prelicensure period, and I predict that after three years of practice, there will be no significant difference in the quality of care provided between individuals who have undergone a prelicensure period, and those who have not.

Liliane Lesaux is a 4th year dental student at the University of Western Ontario and Chairperson of CDA Council on Student Affairs.

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THE DECLINE OF DENTAL CARIES IN ONTARIO SCHOOL CHILDREN

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ABSTRACT

Dental caries prevalence data collected in Ontario health units from 1951 to 1956 and data collected by almost 100 examiners in Ontario health units during the years 1972 to 1984 for children aged five, seven, nine, 11 and 13 years are analyzed by various statistical methods to determine the rate of decline of caries over these years. The provincial average rate of decline in the last two decades is in the order of 50 per cent and there is no apparent evidence that this is lessening. Retro-projections suggest that the decline from previously known levels began in the late 1950s to early 1960s. By the middle of the 1990s, projections indicate that in many areas of the province, less than 10 per cent of seven-year-old children will have experienced tooth decay. The rate of decline is not uniform throughout the province, and in the areas that were lowest in 1984 it is two to three times more rapid than in areas which are still high. This decline in tooth decay appears to be in addition to the benefit provided by fluoridation. It is suggested that the reduction in the need to treat dental caries and its sequelae will bring about marked changes in the future pattern of the practice of dentistry.

SOMMAIRE

Des services médicaux de l'Ontario ont, de 1951 à 1956, puis de 1972 à 1984 (cette deuxième fois, l'équipe comprenait presque 100 examinateurs) recueilli des données touchant la prévalence des caries chez des enfants âgés de cinq, sept, neuf, onze et treize ans. On a analysé ces données en

recourant à diverses méthodes statistiques pour déterminer dans quel pourcentage le nombre des caries avait diminué au cours de ces années. Durant les deux dernières décennies, le nombre des caries a diminué de 50 pour cent et rien n'indique que ce pourcentage cessera de baisser. En jetant un regard rétrospectif sur la situation, on découvre que les caries ont commencé à diminuer en nombre, compte tenu des chiffres connus alors, à partir de la fin des années cinquante et du début des années soixante. On prévoit donc qu'au milieu des années quatre-vingt-dix, dans plusieurs régions de la province, moins de 10 pour cent des enfants de sept ans auront eu des caries. Le nombre des caries ne diminue pas uniformément partout dans la province. Là où il était le plus bas en 1984, il diminue deux ou trois fois plus rapidement que dans les endroits où il est encore élevé. La diminution du nombre des caries semble s'ajouter aux avantages que procure la fluoruration. Comme le traitement des caries sera un service de moins en moins nécessaire et que ce fait ne sera pas sans conséquences, on croit qu'à l'avenir il y aura d'importants changements dans l'exercice de la médecine dentaire.

PROBLEMS AND BACKGROUND

There is a rapidly growing literature concerning the current decline in dental caries¹⁻⁴ but major questions remain unanswered. The most obvious is the rate of decline which is required to assist predictions of future manpower needs. Next is the question of the date when the change in caries' rate began; this could clarify the factor(s) causing the incidence to drop and hence the probable

final level of caries. Further, the variations in current levels of caries and change by geographic areas are in need of study to permit local dental health care requirements to be more effectively planned. Without definite knowledge of the cause or the time when change began, the problem can only be approached by statistical extrapolations based on available data.

In 1956 Toverud⁵ published an extensive report on the changes in tooth decay for Norwegian children during the years 1940-41 to 1952-53. His finding was that dental decay declined through the war years, reaching a low about 1947 after which it rose and was still rising by the end of his observation time. No similar data over time are available for children in North America, although there have been a number of comparisons for a few points in time, giving rise to the speculation that a similar phenomenon occurred over those years. There were some sporadic surveys in Ontario which will be referred to later. However, it can be said that the prevalence of tooth decay was higher in the decades before 1945 because certain tooth surfaces, e.g., interproximal surfaces of lower incisors which commonly decayed then, are rarely evident now.

Sources of Data

Some historical data of varying quality are available on dental caries experience of children in Ontario. McLaren surveyed about 3,000 school children from Windsor reporting in 1948, Decayed, Missing and Filled Teeth scores.⁶ At the same time, the first dental health program in Ontario sponsored by the Ontario Junior Red Cross Society in

TABLE I

Regression Coefficients for Linear, Logarithmic and Probit Transformation Lines Expressing the Decline of Dental Caries in Ontario 1972 to 1984

INDEX	AGE	LINEAR	LOG _e	PROBIT
DMFT	7	-0.022	-0.039	—
	9	-0.054	-0.038	—
	11	-0.082	-0.035	—
	13	-0.176	-0.044	—
deft	5	-0.076	-0.038	—
	7	-0.100	-0.032	—
% with DMFT*	7	-1.230	-0.045	-0.030
	9	-1.640	-0.030	-0.042
	11	-1.630	-0.023	-0.049
% with deft*	13	-1.480	-0.018	-0.062
	5	-1.550	-0.032	-0.039
	7	-1.360	-0.021	-0.038

(All curve-fits are significant <.05)

*percentage of subjects having 1 or more caries-affected teeth.

the Welland and District Health Unit began compiling annual data.⁷ Beginning in 1950, a statistical system for consolidating dental health data was organized in the Division of Medical Statistics of the Ontario Department of Health.⁸ Data consolidated from 23 counties based on this system were published in a report, "Dental Conditions among Elementary and Pre-school Children Over the Years 1951 to 1956".⁹ The system was abandoned shortly thereafter but was reactivated in 1972 and continues reporting biennially on dental conditions for almost the entire province.

Other reports were published in the 1950 decade, namely "The Dental Public Health Program in the St. Catharines-Lincoln Health Unit"¹⁰ and "Health Education in Relation to Dental Care Needs and Demand in the Elgin-St. Thomas Health Unit Area".¹¹ These two reports and the Red Cross study in Welland all reported some statistically significant reductions in the prevalence of dental caries. At the time, this was attributed to the program activities but as there were no controls, the reductions might have been part of a general decline already progressing. Lacking any way of settling the point, the 1951 to 1956 Ontario Department of Health pooled data are used as an average, represented by a bar in the figures to indicate the level of dental caries occurring over this time interval in the counties involved.

Later studies supplying information on Ontario children include a report commissioned by the Ontario Dental Association with the co-operation of The Royal College of Dental Surgeons of Ontario, viz: "The Dental Health of Ontario Children",¹² a survey of approximately 1700 children in 1961-64. The survey employed multi-stage proportional sampling and the standardized Canadian Dental Association survey methods. Ontario data from Health and Welfare Canada, Dental Health Survey of Canadian Provinces, 1966 to 1968¹³ and the Nutrition Canada Survey of 1971¹⁴ have also been utilized as historical data where relevant. The data sets from these three latter surveys can be regarded as evidence that dental caries experience of children in Ontario was higher prior to 1972 when the system of dental data collection and analysis now in use by the Ontario Ministry of Health was initiated.

In this paper, the data from the Ontario Ministry of Health from 1972 forward constitute the main data set. Some qualifications are required of the limitations of the data from the Ontario Ministry of Health analysed in this paper:

i) The 1951-56 report was based on age specific samples of 16,000 to 26,000 schoolchildren. When the provincial data

collection was re-activated in 1972, most of the same geographic areas were still included. At this time, not all of the 43 health units reported findings each year to the Ministry. In 1972, only 27 health units and the mobile dental coaches involved in the Ministry's program of providing dental services for children residing in the more remote areas of the province participated in the program. The locations of these health units are in Metropolitan Toronto and the North, East, South-West and Central Ontario and are felt to have been geographically representative of the province. Returns from the mobile coaches have not been included in the present analysis because of the relatively short stays at various locations. The number of health units involved in the program was gradually expanded so that the sample size in 1984 was more than 160,000 children of ages five, seven, nine, 11 and 13 years. With such large samples, the standard errors for DMF Teeth are in the order of 0.01 or less, so they have been ignored in the analyses.

ii) The health units reporting each year have not been completely identical but the inclusion or exclusion of the very few units failing to report would not be responsible for significant changes in the plotted points or trends they suggest.

iii) The 1951 to 1956 examinations were carried out by a group of about 20 dentists, whereas the Ontario Ministry of Health data for the period 1972-84 involved up to 100 dentists or hygienists. The Ministry has recommended since 1972 that data should be collected according to the standardized Canadian Dental Association survey methods with which all directors of health unit dental programs were made familiar, although examiners could not be regarded as calibrated throughout the province.

iv) Nothing definite can be said about possible long-term shifts in examination standards but it seems unlikely that the high number of observations of any particular year were much affected by the performance of a few extreme examiners.

v) Another recommendation not universally adhered to has been the sampling ratio of one in five children aged five, seven, nine, 11 and 13 years of age. However, a weighting principle has been applied by the Ministry to avoid over- or under-representation from health unit areas.

vi) Inevitably, in most years a number of data returns have been rejected for various reasons, mainly unacceptable recording for analysis by sensitive electronic equipment. This rejection rate was about 8 per cent per year until 1980 and approximately 1 per cent since that time, when the system of recording was revised.

TABLE II

Distribution of Percentages of Children Having One or More DMF Teeth by Age in 1984 for Health Units Reporting

	7 YEARS	9 YEARS	11 YEARS	13 YEARS
PERCENT				
>94	—	—	—	1
91-93	—	—	—	1
88-90	—	—	1	—
87-88	—	—	—	—
85-87	—	—	—	3
82-84	—	—	—	3
79-81	—	1	—	1
76-78	—	—	1	5
73-75	—	—	2	4
70-72	—	—	1	7
67-69	—	—	—	5
64-66	—	1	7	2
61-63	—	2	6	—
58-60	1	—	5	1
55-57	—	1	2	—
52-54	—	2	7	—
49-51	—	4	1	—
46-48	1	3	1	—
43-45	—	4	—	—
40-42	1	4	—	—
37-39	—	5	—	—
34-36	1	4	—	—
31-33	1	3	—	—
28-30	1	—	—	—
25-27	3	—	—	—
22-24	2	—	—	—
19-21	5	—	—	—
16-18	4	—	—	—
13-15	8	—	—	—
11-12	5	—	—	—
<11	1	—	—	—
Total	34	34	34	33

Findings

Information available from the data sets has been plotted in **Figures 1 to 4**. Certain general observations can be made from **Figure 1**.

1. In spite of the presence of some unexplainable variations, study of the general downward progression of the age-specific averages leads to the conclusion that there has been a steady long-term decline which shows little if any indication of ceasing. On the other hand, without definite information of the cause(s), it cannot be stated with certainty that the bottom was not reached in 1984. Only future years of data will rule this out, even as a remote possibility.

2. Sighting retrospectively along the sets of age-specific points produces the strong impression that the change in dental caries prevalence began in the late 1950s to early 1960s.

3. With minor exceptions, the data from the Ontario Dental Association Survey and the Nutrition Canada Survey fit in well with the Ontario Health Units observations. The 1951-56 Report indicates a dental caries experience historical level lower for most age groups than the aforementioned surveys but is still higher in most cases than the 1972 points. Another interpretation could be that the post World War II peak of caries rates was reached between the years of the 1951-56 report and the ODA survey carried out in 1961-64.

4. Because there is no positive knowledge of the cause of the change, little insight is provided to the type of curve expected to fit the data. Intuitively, if the decline of caries follows the statistical curves that have been observed in the past for infectious diseases such as diphtheria and tuberculosis, it might be expected that a reversed sigmoid curve i.e., a slow decline at first, followed by a relatively linear rapid decline, ending with a drawn-out decline at a very low level would be appropriate. The 1972 to 1984 data indicate a trend which seems to be strongly linear, suggesting that these points fall in the middle period.

The above comments apply equally well to **Figure 2**. Until recently, it was commonly accepted on this continent that tooth decay was almost pandemic. This is borne out by the earlier data but not in 1984. As the average level of tooth decay declines, the percentage of persons having one or more decayed teeth (or surfaces) is becoming the most practical measure for epidemiological study. Averages of caries experience (DMFT) generated from only a small minority of affected persons give a distorted picture of the caries distribution in a population.

Observed average decayed, missing and filled teeth for those children having one or

more caries affected teeth by age and year of survey is shown in **Figure 3**. It is very interesting to note the stability of these scores, especially for ages seven and nine from 1951-56 to the present time. This observation, combined with the marked decline in affected persons, implies that very strong factor(s) determined total resistance or susceptibility. It would appear that those who are susceptible quickly develop about the same amount of caries as occurred generally in past years before the decline. The average initial caries rate for the affected younger children has not been changed by the circumstances causing the average decline in children aged 11, 12 and 13 years. The implication is that two factors have been operating, one prior to or shortly after eruption, influencing the overall susceptibility among seven and nine-year-old children, and another(s) attenuating the amount of decay developing over time after eruption.

The average numbers of treated teeth are the result of need, demand and acquisition of dental treatment. The average numbers of DMFT and treated teeth are shown in juxtaposition for ages 11 years and 13 years. At both ages the level of treatment has been very constant since the 1950s up to the present time, implying that the dental manpower available has provided an almost constant supply over two decades. The constraint to continuation of the average level of treatment is obvious from the conjunction of the lines beginning about 1980. As the Filled Teeth count cannot exceed the Decayed, Missing and Filled total count, the level of treatment must be forced down from 1980 onward, in direct proportion to the decline in average DMF teeth.

Regression Analysis

Curve fitting was undertaken for two reasons: 1) to provide some rational future projections and 2) by retrospective extrapolation to give some indication of the date when the prevalence levels began to decline. For these reasons, linear, exponential, second degree polynomial, and normal dosage response (probit transformation) curves¹⁵ were fitted by least squares methods and the goodness of fit determined by analysis of variance.

The results for average DMFT and percentages of the population affected are shown in **Table I**. All fits of the curves are significant. Intuitively the linear and exponential curves noted by Alman¹⁶ seem inappropriate because they do not provide for a gradual decrease in the early years of change. On the other hand, almost all the curves fit well over the linear portion of time (1972 to 1984) and any are appropriate for extrapolation into the immediate future or past.

Projections

Without strong reasons for selecting one particular curve, reasonable projections for the immediate future might be done with French curves or any other eye-fitting approximation. The reality of the average decline in the order of 50 per cent in the two decades is obvious and highly significant statistically.

Although there are objections to the logarithmic curve, the fact that the log slope is reasonably constant around -3.5 per cent of all ages of both dentitions, this value provides a useful rule of thumb for short-term projections. As an illustration, in the 10 years following 1984, the DMFT aver-

TABLE III

Comparison of Decline in Dental Caries in Terms of Regression Coefficients Between 6 Areas with Highest and 6 Areas with Lowest Average Caries in 1984

INDEX	Low Caries Health Units			High Caries Health Units			
	AGE	LINEAR	LOG _e	PROBIT	LINEAR	LOG _e	PROBIT
DMFT	7	-0.038	-0.085	—	-0.014	-0.019	—
	9	-0.097	-0.074	—	-0.040	-0.023	—
	11	-0.140	-0.064	—	-0.122	-0.049	—
	13	-0.178	-0.056	—	-0.078	-0.019	—
deft	5	-0.132	-0.068	—	-0.074	-0.029	—
	7	-0.127	-0.044	—	-0.102	-0.028	—
% with DMFT	7	-1.790	-0.084	-0.076	-0.850	-0.025	-0.020
	9	-2.910	-0.082	-0.059	-0.941	-0.015	-0.027
	11	-2.410	-0.037	-0.072	-0.944	-0.012	-0.037
	13	-2.240	-0.028	-0.087	-0.472	-0.005	-0.041
% with deft	5	-1.780	-0.036	-0.045	-1.590	-0.026	-0.042
	7	-2.410	-0.033	-0.060	-1.230	-0.017	-0.034

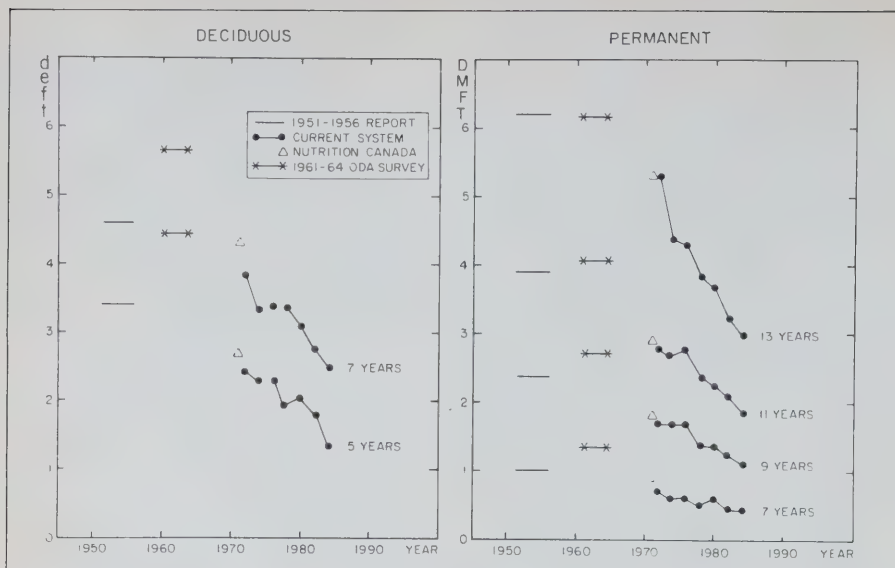


Fig. 1. Observed average decayed, filled and missing teeth per child by age and survey year in Ontario health units.

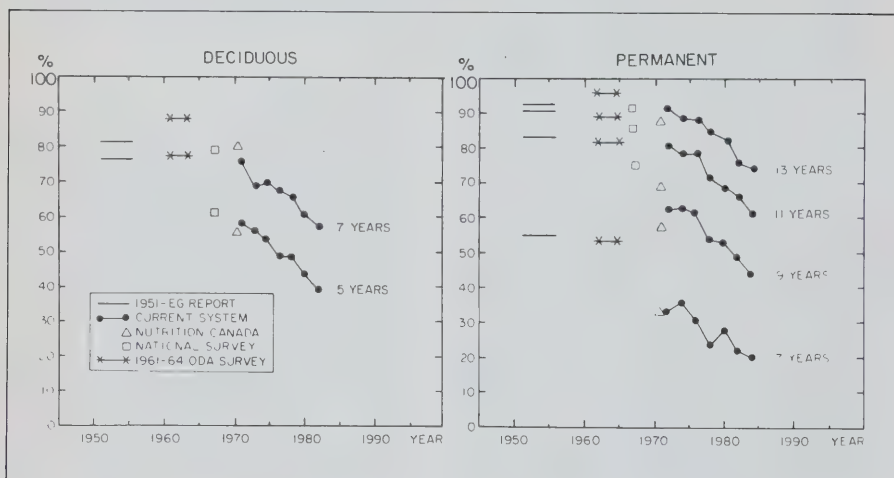


Fig. 2. Percentages of children with one or more decayed, missing and filled teeth by age and year of survey.

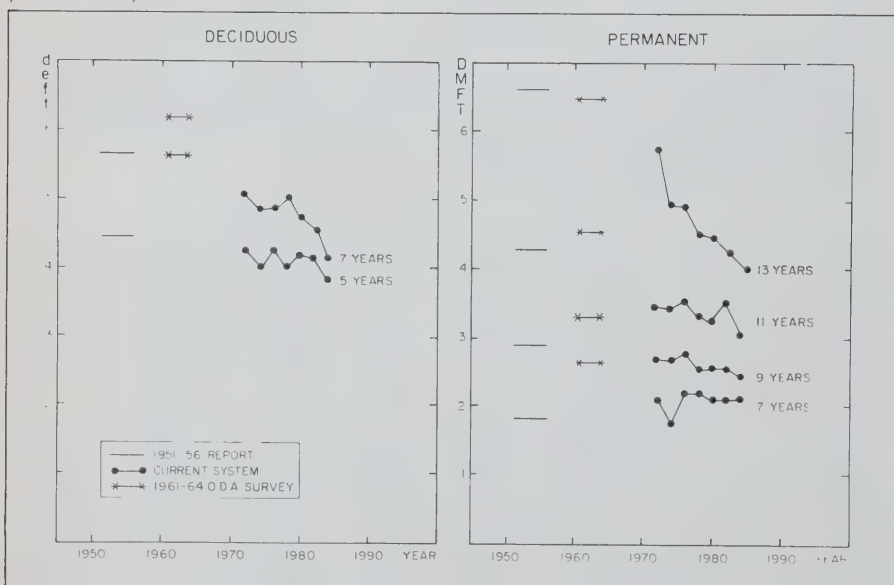


Fig. 3. Observed average decayed, missing and filled teeth for those children having one or more caries-affected teeth, by age and year of survey.

age could be expected to fall by another 30 per cent ($100 \times 0.965^{10} = 70$).

The probit transformation used on the percentages of caries affected persons provides the best fit to the data. These curves are shown in Fig. 5. Both the forward and backward projections at the four ages suggest similar times when the decline began (the late 1950s) and the future levels. An average of 54 linear and exponential retrospective projections set the average time of change from the 1953 level at about 1963 using the 1951-56 report as the historic standard or even earlier if the 1961-64 ODA survey data are used alone as the historical level. As the linear and exponential lines do not allow for a gradual early change, the time when factors developed that initiated the decline may be closer to the late 1950s. The projection of future caries levels suggests that by the mid 1990s, less than 10 per cent of the seven-year-olds will have experienced tooth decay compared to approximately 20 per cent at present. In the health units that are already low in caries (Table II), there was a more rapid decline.

Cohort Analysis

Fig. 6 shows the DMFT averages from Fig. 1 as cohorts of children with each generation connected by lines wherever two or more points are available. Although these likely are not straight lines, their slopes do provide good estimates of the number of new carious teeth experienced per year for each generation. Thus, on the average, the 1961 generation (aged 11 years in 1972) had an incidence of 0.80 new DMFT per year. The 1971 generation (aged seven in 1978) had new DMFT occurring only at the rate of 0.41 per year, i.e., each new generation experienced about 0.04 less new DMFT per year than the previous generation. In Fig. 6B the relative reduction in the slopes per year is shown to be about 0.06, i.e., the attack rate is 6.6 per cent lower per year from the level at the beginning of the year.

Variation in Dental Caries among Health Units

Some idea of the regional variation in caries levels in 1984 can be obtained from Table II, which gives the frequency distributions for percentages of subjects with one or more DMFT by age reported by each health unit. Very wide variation is apparent, although a portion of the differences could be attributed to variation in examiner standards which is submerged in total provincial figures.

Using the average DMFT of ages seven to 13 years for each health unit as an indicator, the geographic distribution of caries prevalence for Ontario is shown on the map (Fig. 7). It is apparent that the areas with

highest caries rates are in the north along Lake Huron. The lowest frequency of caries occurs mainly among children living along the north shores of Lake Erie and Lake Ontario. The reason for the much more dramatic decline in some areas probably is to be found by comparing all the characteristics of the populations in the two regions. To compare the rate of decline in high and low caries areas, the slopes were calculated for six of the highest and six of the lowest areas for comparison. It is clear from Table III that the rate of decline of both DMFT and percent of subjects with one or more DMFT is two to three times more rapid in the areas that are already low than for the areas that were still high in 1984.

For both the low and high caries groups, the retrospective estimates of the 1953 level do not differ markedly from about 1960, based on all provincial data. Hence, it might be concluded that the factors responsible for the decline have been and are more intense in the low caries areas rather than the decline beginning earlier in these areas.

Prospectively, the caries levels in the high areas are estimated to remain above the present provincial average for many decades but in the areas where caries is already low the final disappearance of new caries may occur within one decade.

The Decline of Dental Caries in Relation to Water Fluoridation

Fig. 8 shows the decline of average DMFT by age and year in Perth county. Historically, Perth County has widespread natural fluoride in the water supplies and 98 per cent of its population uses naturally fluoridated water. The benefit of this is not lost and there has been a further decline in caries similar to that in other parts of the province over the years 1972 to 1984. Whatever is causing the drop in dental caries seems to act independently and provides extra protection beyond the 50 to 60 per cent attributable to fluoridation.

DISCUSSION

Cause of the Caries Decline

It is difficult to attribute the decline in dental caries to any specific factor(s). Whether one factor was the main trigger or whether the decline is due to a combination of all, or other factors not identified, remains a matter of conjecture and must be the aim of future intensive research. Some of the events which the authors suggest may have influenced the drop are listed below.

a. The widespread use of fluoride dentifrices beginning about 1962 and the increasing use of weekly or bi-weekly fluoride mouth rinses from the mid 1970s to the present in the elementary schools where the fluoride level is below 0.7 parts per million.

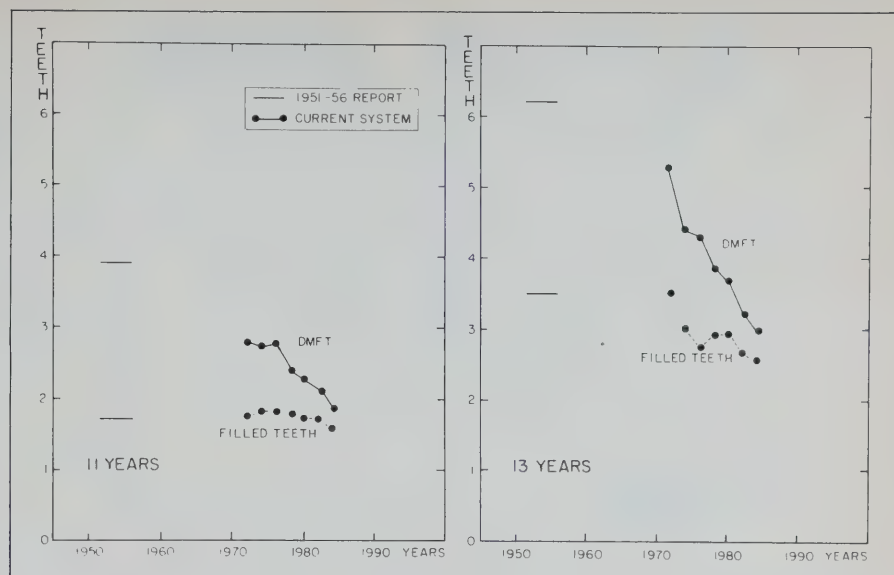


Fig. 4. Average filled permanent teeth and average decayed, missing and filled permanent teeth by year for 11- and 13-year old children.

b. The adoption of water fluoridation in most Ontario communities (72 per cent) where central water supplies exist. In 1984 in Ontario, 62 per cent of the total population was using fluoridated water. It has been noted, however, that caries seems to have dropped by about the same percentage in both fluoridated and non-fluoridated communities, indicating that factors beyond water fluoridation are at work.

c. In March 1976, mandatory enrichment of milk with vitamin D came into force in Canada. However, many companies were enriching voluntarily before this date, as far back as 1949. Federal legislation was passed in Canada, on April 1, 1976, making it mandatory to enrich flour and bread with thiamin, riboflavin, niacin and iron. Optional additions were vitamin B6, folic acid, pantothenic acid, magnesium and calcium.

d. The great stress on oral hygiene, taught by dental hygienists and dental health educators to children in all the preventive dental programs of health units since the late 1960s. This includes instruction on fluorides, oral hygiene techniques, and reduction of the amount and frequency of sweet foods, especially between meals, and advocacy of regular dental care.

e. The increase in level of treatment relative to the amount of caries, so that the numbers of unfilled cavities that may form colonization locations for cariogenic bacteria have been reduced. The elimination of open cavities combined with the general use of fluorides may have lowered the levels of oral organisms and reduced the probability of acquiring caries causing micro-organisms at early ages.

f. The very widespread use of antibiotics in

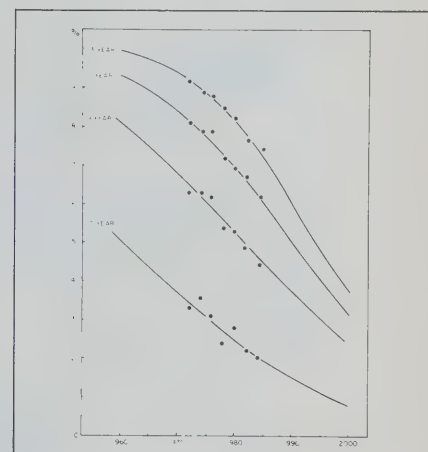


Fig. 5. Percentage of children with one or more DMFT (Fig. 2) fitted by normal curve transformation regression lines. Projections suggest the caries level for the future.

North America may have reduced the level of cariogenic organisms in the population.

All the above factors are ongoing and unlikely to change and their possible joint influence on dental caries is likely to persist and possibly intensify.

The data used for this study were based on clinical examinations only (no radiographs), conducted under varying conditions by up to 100 examiners who were trained but not calibrated. There is no doubt that with the use of radiographs and recording of DMF surface scores (rather than tooth scores), higher average estimates would have resulted. However, the percentages of persons with one or more teeth or one or more surface(s) affected are identical, and as the visible fissures are usually the first to decay, these percentage values are probably valid. In any case, the relative rates of change and the differences in rate of decline

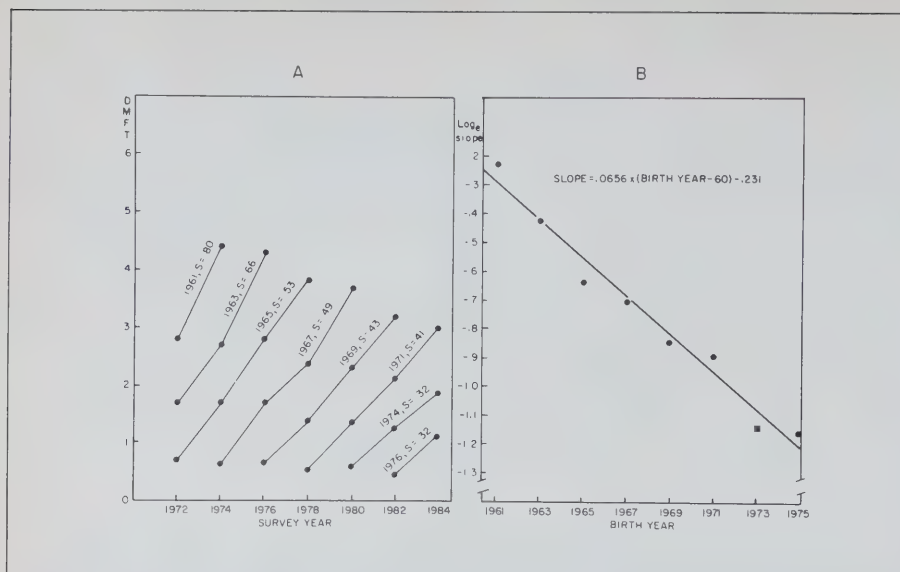


Fig. 6. A. DMFT averages from (Fig. 1) connected as cohorts by year of birth with linear slope. B. Natural logarithms of slopes fitted by linear regression line.

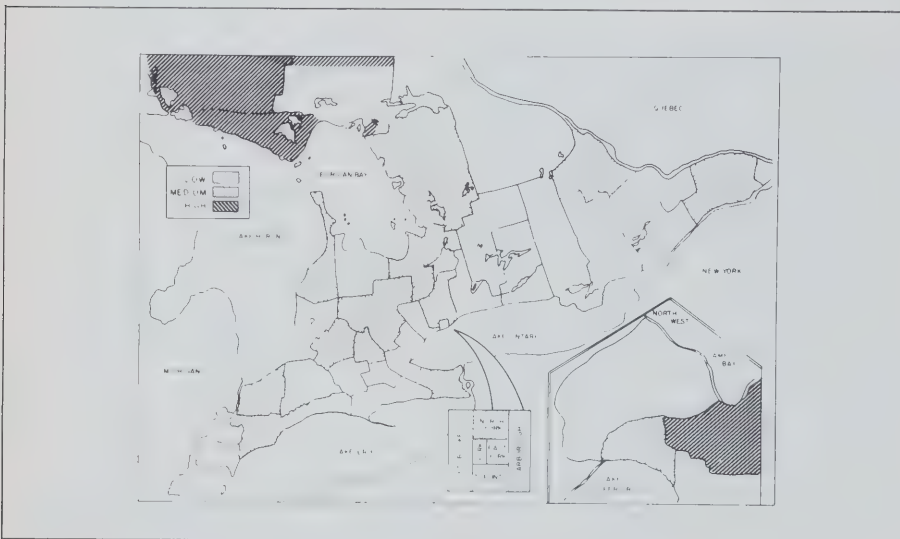


Fig. 7. Geographic distribution of caries prevalence in Ontario in 1984.

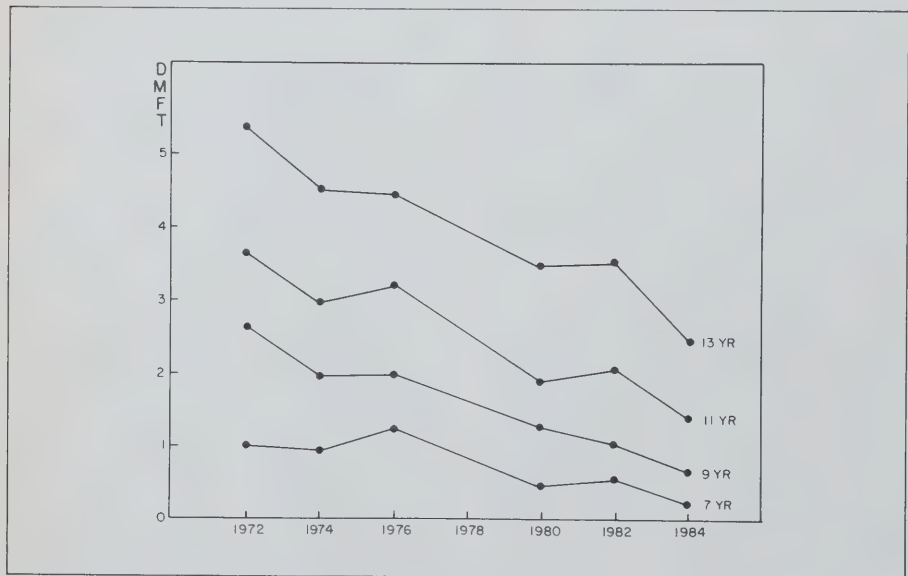


Fig. 8. Mean DMFT by age and year for Perth county.

between the high and low caries geographic areas are almost independent of the absolute values. Study of the rate of change in dental caries in the geographic areas where caries is already low may be the best indicator of the situation to be expected in the future. It should be noted that in the areas with the lowest caries prevalence in 1984, the percentage of children at seven years of age who have one or more DMFT is currently at or below 12 per cent and shows no indication of levelling off. Indeed if the cariogenic bacteria are coming under control by some mechanism or another there may be regions where dental caries and its sequelae soon will become quite rare conditions.

In future years, it would appear that the decrease in number of dentist hours devoted to the treatment of caries and caries sequelae such as endodontics, extractions and replacement of lost teeth must parallel the decreases in caries prevalence. Alternatively, there will be less caries to be treated on the average per dentist or fewer dentists will be required.

The seriousness of the situation to the type of activities with which present and future dentists will be occupied, emphasizes the need for continuation of the data collections and biennial re-evaluation of the trends by the Ontario Ministry of Health. Surveillance of the trends should be of very high priority to the dental profession.

CONCLUSIONS

1. On the average, dental caries in elementary school children has declined in the Province of Ontario in the order of 50 per cent since the 1950s and showed no apparent indication of levelling off by the year 1984.
2. The prevalence of caries differs among children, with the highest levels of caries found in the northern areas of the province and lowest levels in the south.
3. The rate of decline in dental caries is two to three times more rapid in areas where the levels of caries are already lowest, indicating that the percentage of the population with caries in the latter areas may be close to zero by the end of the century and under 10 per cent throughout much of the province.
4. The average reduction in caries level among children in Ontario will call for major reallocation of treatment activities for the dental profession in the immediate future.

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QUALITY CONTROL

MECHANISMS IN DENTAL INSURANCE SCHEMES IN ONTARIO

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ABSTRACT

In February 1983, questionnaires were mailed to dental consultants working with 34 dental insurance companies in Ontario. The survey was undertaken to determine pre- and post-treatment review mechanisms used by insurance companies in claims review and to ascertain the likely impact of these review mechanisms on patterns of dental care. Results of the survey showed that dental consultants do not influence the quantity or quality of basic services. Prior authorization is an attempt to assure the necessity of crown and bridge, removable prosthodontic and orthodontic services. Post-treatment (claims) review ensures that the benefits were covered. There is no systematic process which assures the necessity of basic services nor the technical standards of all services. In Ontario, the dental consultant serves in a purely advisory capacity. Consultants have little influence on the quality of treatment rendered and provide limited quality assessment rather than quality assurance. Thus, despite access to good information and the opportunity to influence both the quality of services and patterns of care on the basis of that information, dental insurance review mechanisms appear to have minimal effect. Both professional standards and effective review mechanisms should be developed and tested conjointly by the profession and the dental insurance industry.

SOMMAIRE

En février 1983, on a posté un questionnaire à des consultants dentaires travaillant pour 34 compagnies d'assurance dentaire de l'Ontario. Ce questionnaire avait pour but, premièrement, de déterminer les mécanismes que les compagnies d'assurance utilisent pour réviser les procédures précédant et suivant les traitements lorsqu'elles étudient les demandes d'indemnité et, deuxièmement, de vérifier les conséquences probables de ces mécanismes sur la prestation des soins. Les réponses obtenues ont révélé que les consultants dentaires n'exercent aucune influence sur la qualité et la quantité des services de base. Avec l'autorisation préalable, on cherche à s'assurer que couronnes et ponts, prothèses amovibles et services d'orthodontie sont réellement nécessaires. Lorsqu'on révisé les procédures qui suivent les traitements, on s'assure que celles-ci sont bien couvertes par le régime d'assurance. Il n'y a aucun moyen systématique pour assurer que les services de base sont vraiment nécessaires ou que les normes techniques de tous les services sont respectées. En Ontario, le consultant dentaire agit purement à titre consultatif. Les consultants ont peu d'influence sur la qualité des traitements donnés. Leur évaluation de la qualité des services est restreinte et ne constitue pas une garantie. Aussi, bien que les assureurs aient accès à de bons renseignements et aient de ce fait l'occasion

d'exercer une influence tant sur la qualité des services que sur le mode de prestation, il semble que leurs mécanismes de révision aient un effet négligeable sur les services. La profession et les assureurs dentaires devraient travailler de concert pour établir et vérifier des normes professionnelles et des mécanismes de révision efficaces.

Recent figures and published articles show dental insurance has been the fastest growing employee benefit in Ontario. Leake¹ has shown that from a negligible share of the market in 1970, by 1979, of the \$450 millions spent provincially on dental care, 42.2 per cent was paid by dental insurance companies. By 1981, 7.5 million Ontario people were covered and \$203.1 million was paid in benefits by all private carriers in the province.² The number of plans offered has also increased as firms and employed groups contract for the benefit package that best suits their needs.³ With such amounts of money involved and with the variety of benefit packages, dental insurance companies would be expected, in the interest of their shareholders, to minimize expenditures by containing costs within the premium dollars available.

Such cost containment mechanisms may be divided into two types. The first attempts to control patient demand through cost-sharing mechanisms including deductibles,

co-insurance (co-payments) and annual maxima. These mechanisms which are often used in various combinations are negotiated between employer, employee group and insurer. When cost-sharing mechanisms are combined with a specific list of service benefits and a particular fee schedule, plan costs may be limited.

A second type of cost containment mechanism occurs after the patient has sought care from a practitioner. Auditing processes verify that the claimant is eligible and that the claim is for a covered benefit. They also are employed to monitor the services through pre- and post-treatment review processes. To assist in treatment review, insurers engage licensed dentists to act as consultants.

A dental consultant participates in the

administration of an insurance plan by providing instruction to staff and professional advice to the plan's managers in those areas of administration which are within the scope of his or her profession.⁴ Treatment review may be required to determine if a service which has been proposed or rendered by the beneficiary's dentist is justified and to resolve with the individual's dentist any resulting problems. Dental consultants are therefore involved in assuring the quality of administration of dental plans and through this process may be a developing force in the assurance of quality of dental services. Large insurance companies may have many consultants, whereas smaller insurance companies often only have one. Consultants may also work for more than one insurance company.

Context of the Present Study

There is no documentation of the claims review or quality assurance mechanisms in dental insurance schemes in Ontario. The roles of insurance companies' administrative staff and of dental consultants are unknown. Courses of action, if any, taken by insurance companies regarding problem claim submissions are also unclear. Thus, a pilot survey of dental consultants was undertaken to begin to define the subject in Ontario.

The general goal of the study was to determine the mechanisms of cost control used by dental insurance companies and the role of dental consultants for reviewing claims submitted by, or on behalf of, eligible

beneficiaries. The specific objectives of the study were:

1. to obtain a description of the Ontario dental consultants concerning their experience and time spent consulting.
2. to determine and describe pre- and post-treatment review mechanisms used by dental insurance companies in Ontario.
3. to discuss the likely impact of these review mechanisms used by insurance companies on patterns of dental care.

Methods

In early 1983, 43 questionnaires, personalized cover letters and return envelopes were mailed to all dental consultants listed with the Ontario Dental Association as working with the 34 companies underwriting dental insurance in Ontario. Initially 22 responses were received. After one month, non-respondents were contacted by telephone and two more responses were received. Cross-checks on these two responses showed consistency with the 22 earlier responses.

Where more than one consultant worked with a large insurance company, usually only one response describing the company policy was received; however, in two cases the consultants filed separate but identical returns. It thus became clear that the responses were more appropriately analysed by company rather than by individual consultant. Analysis of respondents and non-respondents showed similar characteristics of time since graduation and location of dental practice. In summary, replies were received from 17 dentists reporting on the policies of 24 (71 per cent) of the 34 insurance companies in Ontario underwriting dental plans. This response rate was believed to be sufficiently high for results to be representative of Ontario dental insurance companies.

The data from the questionnaires were coded and transcribed on to computer punch cards, edited and analysed using the Statistical Package for Social Sciences.

Findings

The individual data on the 17 consultants were first analysed separately from the company data.

Table I shows the majority of consultants (14 of 17) had more than two years experience and 8 of 17 had more than six years experience. Only three consultants had less than two years experience at consulting.

The responses indicated that the majority (12 of 17) of consultants spend one to three days per month consulting. One consultant spent up to 15 days a month at insurance consulting activities. Fourteen, (82 per cent) of the 17 consultants, spent more than three days per week in clinical practice, and only one consultant spent less than one day per week.

TABLE I

Extent of experience among dental consultants to firms underwriting dental insurance in Ontario

Experience	Frequency	Per cent
Less than 6 months	0	0
6 to 12 months	2	11.8
1 to 2 years	1	5.9
2 to 5 years	6	35.3
6 to 10 years	6	35.3
11 years or more	2	11.8
	17	100.0
<i>Median = 2 to 5 years</i>		

TABLE II

Type and frequency of predetermination auditing functions carried out by administrative and dental consultant personnel in Ontario dental insurance companies

Type of Auditing Function	Frequency Performed						Weight of responses**
	All of the time	Most of the time	Some of the time	Seldom	Never	No response	
Eligibility of Person	22 (0)*	1 (0)	1 (0)	0 (2)	0 (22)	0 (0)	+23 (-24)
Requested service(s) being covered	19 (1)	3 (1)	1 (12)	1 (3)	0 (7)	0 (0)	+21 (-8)
Consistency of requested service with prior service	16 (3)	6 (2)	1 (9)	1 (7)	0 (3)	0 (0)	+21 (-5)
Requested service meeting allowable frequency	12 (3)	2 (5)	2 (5)	0 (2)	1 (9)	7 (0)	+13 (-3)
Future expiry date of contract	20 (0)	0 (0)	1 (1)	2 (1)	1 (22)	0 (0)	+17 (-23)
There being a lower cost alternate treatment	1 (11)	3 (2)	2 (4)	1 (3)	14 (1)	3 (3)	-11 (+9)
Requested service being appropriate to dental health	0 (8)	0 (2)	2 (6)	3 (2)	17 (5)	2 (1)	-20 (+3)

*Figures in brackets show the frequency of involvement by dental consultant.

**Weight of responses = frequency (all + most of the time) - (seldom + never).

Company Data

Predetermination of Benefits

Predetermination is an administrative procedure used to determine in advance of treatment the patient's eligibility, the duration of that eligibility, the amounts payable for the proposed services and the extent of any deductibles, co-payments or maxima. Thus, the insurer can advise the beneficiary of the insurer's liability, which may even be nil if the eligible service has been provided more recently than allowed by the terms of the contract, e.g. a new denture within five years of a previous one. If the master contract contains a clause whereby alternate benefits of a lower cost must be substituted for proposed services where the alternate benefits are consistent with the patient's health status, then these would be reviewed in such a process.

Respondents were asked to indicate the frequency with which a list of auditing functions was performed. Table II shows the responses for each of five frequencies, ranging from "all of the time" to "never". Also shown is the type of personnel, administrative or dental consultants who carried out the auditing function; and the frequency of "no response". The "weight of the responses" column is the sum of the "all" and "most of the time" columns minus the sum of the "seldom" and "never" columns. As can be seen, the auditing of eligibility of person and service, consistency of requested service with prior services, the expiration of contract and the requested service falling in the allowable frequency, are checked most frequently and are usually performed by administrative personnel. In practice, many of these procedures are conducted by accessing computerized records. Dental consultants reported they become involved in predetermination review to recommend a lower cost alternate treatment, but only if the terms of the contract require it. As indicated by the weight of responses column, these procedures are carried out infrequently.

When asked which types of services they are asked to review, dental consultants replied they became involved most or all of the time with crown and bridge, and to a lesser extent with orthodontic and removable prosthodontic services. Preventive, restorative and endodontic services were not usually reviewed by the consultant. Respondents reported that exceptions to this occur when a particular reason exists, such as an aberrant profile of practice, accidents, alternate benefit clause or fraud detection. Two consultants reported their increased involvement in temporomandibular services. It was unusual for consultants to review proposed oral surgery services.

Use of Radiographs and Study Casts in Predetermination

Terms of contracts often state that consultants can request radiographs to support the practitioner's request for proposed services. These are requested most or all of the time by 22 of the 24 companies for crown and bridge services and by eight of the companies for removable prosthodontic services. One consultant described this as being necessary in "specific cases where the dentist's predetermination submission leaves some confusion". All companies reported that radiographs for oral surgery services were seldom or never requested.

Consultants reported that study casts are requested occasionally for crown and bridge services and orthodontic cases. Three consultants reported routinely requesting casts for orthodontic cases but seldom receiving them.

Frequency of Repeated Services

One area of quality standards is the frequency with which procedures are repeated. It is obvious that insurers can build up via previous invoices, a service record for each beneficiary which is specific as to tooth treated and type and date of service. Our survey sought to determine whether checks are performed on the frequency with which services are repeated are performed. As shown in Table III, consultants reported that most companies checked for the frequency of most types of services. However, nine of 21 respondents reported that their companies did not check for repeated restorative services.

Respondents reported that some companies with computerized claims processing use a tooth history file and automatically check by computer to ensure services have not been repeated within specified time limits. Other companies do not specify limitations, but reported they utilize the criteria of what is "reasonable and necessary". For certain services (e.g. restorative), respondents

for these companies reported that frequency guidelines are totally dependent on contract design, but this was not explained further.

Respondents then described the methods insurance carriers in Ontario employ to determine appropriate frequency intervals for services. The consultants' returned questionnaires state frequency limitations can be:

- based on those written in the United Auto Workers contract of the early 1970s;
- negotiated with the plan purchaser;
- company specific, i.e. developed in association with the company's dental consultant(s);
- what is usual and customary within insurance industry in comparison to other plans;
- guidelines established by other companies and CASSI (Canadian Association of Accident and Sickness Insurers, now The Canadian Association of Life and Health Insurers);
- developed in consultation with specialists, general practitioners, administrative personnel, and other consultants;

TABLE III

Review of repeated dental services in the predetermination process by Ontario insurance companies

Type of Service Repeated	Occurrence of Review		
	Yes	No	No response
Diagnostic services	20	1	3
Preventive services	22	1	1
Restorative services	12	9	3
Removable prosthodontic services	22	1	1
Crown and bridge services	22	1	1
Orthodontic services	17	4	3

TABLE IV

Type and frequency of claims review auditing functions carried out by firms underwriting dental insurance in Ontario

Audit for:	Frequency					
	All of the time	Most of the time	Some of the time	Seldom	Never	No response
Eligibility of person	20	0	0	1	3	0
Expiry date of contract	19	0	0	1	4	0
Services performed being covered	16	5	0	0	3	0
Performed service being appropriate to dental health	2	5	1	0	12	4
There being a lower cost alternate treatment	11	1	2	3	5	2

Dental Prepayment Advisory Committee personnel;
g. as outlined by the Royal College of Dental Surgeons; Ontario Dental Association,
h. based on "common sense" with reference to what is "usual in private practice"; and
i. loosely governed by guidelines of the Ontario Dental Association fee guide and traditional practices.

Claims Review

All claims submitted to insurers are audited by administrative personnel, or automatically by computer where firms are computerized, before payment is authorized. **Table IV** shows that after services are performed and claim forms submitted, routine checks are usually carried out on eligibility, expiry date of contract, consistency of service performed with prior service, and services performed being covered. A majority of responses (12 of 20), showed that carriers never check to determine if the service, for which a claim was rendered, was appropriate to the dental health of the patient.

Consultants reported they became involved, but only in specific cases where rendered services were not covered, were inconsistent with prior services or did not meet allowable frequency standards. Reportedly, many of these cases occur where confusion has arisen over what benefit is covered. Five respondents reported that if no predetermination or treatment plan is submitted and approved for crown and bridge services, their company's auditing process will automatically reject the claim, and thus the consultant becomes involved.

Use of Radiographs and Study Casts in Claims Review

Respondents indicated that carriers generally accept a brief radiological report or expertise statement in lieu of pre- or post-treatment radiographs. Only five carriers

(21 per cent) request radiographs routinely for their orthodontic claims review process. Some contracts require the submission of study models for post-treatment review of orthodontic services but consultants report they rarely or never receive them. Respondents reported that carriers pay for the service whether study models are received or not. Three respondents indicated that in rare "problem cases", radiographs or study casts are utilized in post-treatment review of services other than orthodontic.

Courses of Action Reportedly Taken by Insurers

Respondents were asked to indicate the frequency with which their companies used different mechanisms to deal with claims which were judged to be unnecessary or to have been performed too frequently. As can be seen from **Table V**, there is a tendency not to pay for these services (five do not pay most or all of the time and four pay never or seldomly). Eight insurance carriers reportedly never employ the mechanism of "we pay this time but don't do it again", but 17 do use this mechanism albeit seldomly or just some of the time. Seventeen of 21 respondents reported their companies will refer the matter to a disciplinary body, but this is done seldomly or only some of the time. The other four reportedly never referred these matters.

One respondent indicated that some companies will take the dentist off "assignment of benefits", obtain computer profiles of the dentist's services, and audit them through a subscriber questionnaire. "Assignment of benefits" is the process by which the patient authorizes the dentist to bill the insurer directly, obviating the patient's need to pay the dentist and then be reimbursed by the insurer. Others, having run a detailed claims profile to determine the extent and seriousness of the problem, may refer to the Dental Prepayment Advisory Committee of the Ontario Dental Association. The consultant also "may phone the dentist as a friend".

Other companies reportedly pay a lower cost alternate benefit in cases where there is a question of the appropriateness or necessity of the treatment in order to maintain good public relations.

Other Findings

It was also learned from the survey that no insurance company in Ontario had a system to routinely check if basic services were performed. Fourteen respondents reported they sometimes used patient letter audits but the other nine reported they never used such audits. Examination of patients in response to complaints is left to the discretion of the complaints adjudication process operated by the Ontario Dental Association and The Royal College of Dental Surgeons of Ontario. Only nine companies have a checking system to investigate claims alterations by patients. These are reported as being informally based on staff awareness rather than any standardized procedure.

Discussion

Dental insurers and their dental consultants in Ontario appear to exert very minimal influence on the type or quality of dental services rendered to insured beneficiaries. Prior review of the more frequently provided services is not routinely performed by any insurance company's administrative staff or consultant. Prior reviews are conducted on the basis of the patient's treatment history and pre-treatment radiographs if submitted by the dentist. Alterations to the proposed plan can be effected by an insurer only if the requested service impinges upon the allowable frequency limits, if an alternate benefit of lower cost can be advised, or if the service is a non-covered benefit.

It is interesting to speculate on the irony of such allowable frequencies which reportedly vary with contract design. Apparently it is the case that higher premiums will obtain contracts with less stringent minimal intervals between the same service being performed. Thus, patients paying higher premiums can have the same treatment repeated more frequently. To the extent this is done, this doubtful effect on quality is worsened by the observation that the higher premium contracts are often not the ones containing alternate benefit clauses. This could allow for more frequent repetition of the more expensive services, which may well be reimbursed by the company without question.

No companies base their time limits within which repeated services are questioned on scientific evidence. Rather they have been developed from a combination of subjective traditional opinions of plan purchasers, insurance underwriters and dentists plus "common sense".

TABLE V

Frequency of methods chosen by insurers to deal with claims for inappropriate service

Action:	Frequency				
	All of the time	Most of the time	Some of the time	Seldom	Never
Will not pay	3	2	13	4	0
Pays but warns dentist	0	0	6	7	8
Refers to the disciplinary body	0	0	9	8	4
Refers back to the original provider for correction of dental care deficiencies	0	0	1	4	15
Other	—	—	4	—	—

Post-treatment claims review may also provide the opportunity for dental insurers to influence the type of care provided. In this case, all services are audited and entered on the patient's treatment record. However, checks for fraud (services not performed or charging for one service when another service was actually done) are not routinely performed. The survey shows that Ontario insurance carriers pay oral surgery claims without question, even though there is evidence from the United States of overcharging by 50 per cent on oral surgery claims.⁵

When inappropriate care is discovered, only three of 22 companies will definitely refuse to pay for the service. Seventeen of 21 companies will refer the dentist to a disciplinary body, but this is done seldomly or only some of the time. This may explain in part why a total of only 422 complaints were received by the R.C.D.S. Complaints Committee in 1981,⁶ out of 15 million patient visits in Ontario in the same year.⁷

The one consultant who was interviewed reported that at least one company paid a lower priced alternate benefit in cases of inappropriate or unnecessary treatment, in order to maintain "good public relations". The fact that carriers wish to maintain "good public relations" with the profession may also explain why they do not refer cases more frequently to the R.C.D.S. and why they will accept a brief radiological report or expertise statement in lieu of pre- or post-treatment crown and bridge radiographs as contracts reportedly specify. In these cases, the practitioner's word on necessity, appropriateness and technical standard of treatment rendered is accepted without question or evidence.

Friedman⁸ has shown how routine predetermination procedures can alter a large number of treatment plans. Of all treatment plans changed by one review process, 93 per cent had deletions and seven per cent had additions. The total result of alterations to treatment plans resulted in a six per cent savings on one group's dental claims. The services of this group were similar to those found by Lewis et al⁹ in Ontario where, in 1979, \$189,147,700 was paid by insurance firms.¹ If a similar six per cent savings were to be achieved, over \$11,300,000 could potentially have been saved by Ontario insurance companies in 1979 if strict predetermination procedures had been in effect. With more stringent post-treatment review mechanisms, further dollar savings might have been achieved.

However, if insurance companies attempt to influence the type of care provided by rigidly interpreting the terms of the contract, they may offend not only dentists but, more important, the beneficiaries. These

beneficiaries or patients could then complain to their union representative, in an attempt to ensure that the contract upon renewal is awarded to a different insurer.

The position of dental consultants appears to be particularly uncomfortable. In predetermination, they lack the authority to enforce the terms of the contract which require submission of radiographs or study casts. Thus, it is not possible to make an informed judgement of the appropriateness of care in all cases. Secondly, they have influence over a relatively few expensive services and then only if the contract contains an alternate benefit clause or if a service has been requested within the allowable time. Their terms of reference were developed to be consistent with the Ontario Dental Association's position as to what constitutes peer review and that consultants cannot conduct such review. They are thus prevented from suggesting a potentially more appropriate type of care, even when the requested service might be felt to be inadequate for the patient's needs.

In claims review, it was stated that insurance managers can occasionally overrule the dental consultant by directing the payment of claims judged to be unwarranted and by refusing to refer questions for formal peer review when indicated.

Another major contribution to a dental consultant's discomfort surely must be the lack of professionally defined standards by which to judge proposed and completed treatment. As one example, this study has demonstrated the variety of sources of frequency limitation criteria which are applied in the administration of the programs. In no case are these criteria reported to be derived from evidence obtained in clinical trials. Similarly, consultants lack reference to either professionally defined standards or insurance industry standards of what constitutes adequate care; the former, because the profession has yet to articulate them and the latter because the development of information on Ontario dentists' practice patterns through the sharing of data between insurers has not occurred. A natural concern over sharing information with a competitor and guidelines published by the Ontario Dental Association¹⁰ are two factors blocking this development.

Conclusions

The following conclusions can be reached from this study.

1. Dental insurance companies do not attempt to influence the quantity or quality of basic (diagnostic, preventive or restorative) services provided since these services do not require prior authorization.
2. Companies exert some prior influence on the provision of crown and bridge,

orthodontic and removable prosthodontic services ensuring necessity and appropriateness but only where these are covered benefits.

3. There is little post-treatment control over services performed, except to exclude from payment non-covered benefits and occasionally to pay a lesser cost benefit where the necessity of that which was rendered is questioned.

4. There is little evidence of checking patients' interference with claim form submissions.

5. The influence of dental consultants on the quality of care rendered is reportedly limited by the definition of peer review and their exclusion from that role, the lack of defined professional standards and the desire of the insurers to offend neither the profession nor the beneficiaries.

Implications for Future Research

The consultants' role with the insurance company is as an adviser to the carrier on matters of plan design, and liability under the terms of contracts in both pre- and post-treatment review. Their role also includes investigating patterns of alleged abuse by dentists or patients and, if warranted and supported by the plan's manager, referring the problem either to the Dental Prepayments Advisory Committee of the Ontario Dental Mediations Committee or, rarely, to the professional disciplinary body, The Royal College of Dental Surgeons of Ontario.

The survey showed that many insurance companies appear to follow through infrequently on potential abuses by dental practitioners and that there is little influence on the patterns of practice or the dentist-patient relationship.

The authors feel that this study, although preliminary, points to the need for further action by the dental profession and the insurance industry. Firstly, standards of care need to be defined by the profession. The defined standards must be based, where possible, on a high level of evidence obtained from studies conducted on human subjects or population groups. These standards can then become the benchmarks by which insurers, through their professional dental consultants, can review individual claims or patterns of practice. Some co-operation between the profession and insurers would seem to be mutually advantageous, since insurers have extensive data bases from which to examine the potential impact of the application of such standards.

Secondly, and almost independently of the first recommendation, given the current minimal influence of current review systems, there needs to be a study to ascertain whether truly effective review processes would change the pattern of dental care ren-

dered and contain costs to a degree that it would be worth the additional cost.

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A SURVEY OF PARENTS' PERCEPTION OF THE DENTAL NEEDS OF THEIR HANDICAPPED CHILD

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ABSTRACT

The parents or guardians of 187 handicapped children were surveyed with the intent of assessing their perception of the dental health and needs of their child. It was felt that the responses would also serve to assess the potential utilization rate of a planned dental care facility for the handicapped. The results appear to indicate that either high quality dental care is provided to most of these children, or parents have a low perception of their child's dental health. Over half the respondents felt that there exists a need for the establishment of a dental care facility for the handicapped.

SOMMAIRE

On a interrogé les parents et tuteurs de 187 enfants handicapés pour savoir ce qu'ils pensaient de l'hygiène et des besoins dentaires de ceux-ci. On a également songé à utiliser leurs réponses pour déterminer dans quelle mesure ils consulteraient le service dentaire pour handicapés qui est à l'état de projet. D'après les résultats obtenus, il semblerait soit que les enfants handicapés reçoivent d'excellents soins, soit au contraire que les parents comprennent mal l'importance de l'hygiène dentaire pour leurs enfants handicapés. La moitié des personnes interrogées sont d'avis que la création d'un service dentaire pour handicapés constitue un besoin.

While most dentists are trained to accurately assess their patients' dental needs, the perception of these needs is often vague or unclear in the patient's mind, or in the minds of those responsible. Often patients will not seek dental care or communicate their need until pain becomes a prominent feature in their symptomology. This is especially true for the child and handicapped patient.

This study was initiated with the intention of surveying the perception of parents or guardians of handicapped children regarding their child's dental needs, and, also to assess the potential utilization rate of a planned dental care facility for the handicapped.

MATERIALS AND METHODS

A self administered questionnaire (Fig. 1) was mailed to 600 parents or guardians of children afflicted with various handicapping conditions. A covering letter explaining the purpose of the survey and a stamped self-addressed envelope was included. The study sample was drawn at random from the files of those patients receiving medical services at the Children's Rehabilitation Centre and the Alvin Buckwold Centre located in the City of Saskatoon, and serving the Province of Saskatchewan.

Of the 600 questionnaires mailed, 187 replies were received, giving a 31.2 per cent response rate. The data were collated and

analyzed by a simple numerical count and the percentages calculated and reported.

Children in the sample were afflicted with a variety of handicapping conditions – cerebral palsy formed the largest single group (40.1 per cent), followed by mental retardation (12.8 per cent). Many children also had multiple handicaps.

RESULTS

In the total sample, 94.7 per cent of the parents reported that their child lived at home all of the time, while the remaining 5.3 per cent were institutionalized or lived at home sporadically.

Of the respondents, 74.3 per cent reported that their child received regular dental care, while 12.8 per cent reported difficulty in obtaining dental care. In the total sample, 68.4 per cent expressed their satisfaction with the quality of dental care their child was receiving. The majority of respondents (96.3 per cent) felt that regular dental care is important for their child's health (Table I). The dental care provided was obtained from a variety of sources as shown in Table II. School-based dental programs provided most of these services.

As shown in Table III, the majority of children in the sample had never experienced a toothache (79.2 per cent), or had a tooth extracted (64.7 per cent), or experienced any prior difficulty in chewing or eating (74.3 per cent). Most of the parents

FIGURE 1:

Questionnaire

1. What is the nature of your child's handicap? _____ 2. Does your child live at home? All of the time ☐ Occasionally ☐ 3. Does your child receive regular dental care? Yes ☐ No ☐ 4. Have you ever had difficulty obtaining dental care for your child? Yes ☐ No ☐ 5. Are you satisfied with the dental care presently provided for your child? Yes ☐ No ☐ 6. If you are not satisfied, please explain why. _____ _____ _____ 7. Do you think regular dental care is important to your child's welfare? Yes ☐ No ☐ 8. Where do you take your child for dental care? Does not receive dental care ☐ School Dental Clinic ☐ Private Dental Office ☐ Specialist in Children's Dentistry ☐ Other ☐ 9. Has your child ever had a toothache? Yes ☐ No ☐ 10. Has your child ever had a tooth extracted? Yes ☐ No ☐	11. Does your child have any difficulty in chewing or eating? Yes ☐ No ☐ 12. Are you satisfied with the appearance of your child's teeth? Yes ☐ No ☐ 13. Do you think your child would be better off to have all teeth extracted? Yes ☐ No ☐ 14. Does your child require either of the following in order to accept dental care? Premedication: Yes ☐ No ☐ General Anaesthesia: Yes ☐ No ☐ 15. Who usually cleans your child's teeth? _____ _____ 16. Is dental floss used to clean your child's teeth? Yes ☐ No ☐ Occasionally ☐ 17. Do you feel there is a need for a centralized facility equipped primarily to provide treatment for handicapped patients? Yes ☐ No ☐ 18. Do you have any suggestions to improve dental care for your child? _____ _____ _____ _____ _____ _____
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(74.9 per cent) expressed satisfaction with the appearance of their children's teeth, and only 1.1 per cent felt that their child would be better off with all teeth extracted. Most parents felt there was no need for adjuncts, such as premedication or general anesthesia, to facilitate treatment.

With regard to dental hygiene practices, most parents responded that their child brushes unassisted (49.7 per cent). When brushing was done by an adult, mothers were usually the ones responsible (28.9 per cent) (Table IV). As shown in Table V, dental floss was used infrequently or not at all.

Over half the respondents (66.9 per cent) felt there was a need for a centralized centre for the handicapped, and 52.4 per cent reported that their child would attend such a centre (Table VI).

DISCUSSION

This survey was initiated to study parental attitudes towards the dental health of their handicapped children as well as to examine the need and anticipated demand if provision was made to include dental care facilities and services in the new Saskatchewan Kinsmen's Children's Centre, affiliated with the University Hospital in Saskatoon.

As stated earlier, the majority of respondents (66.9 per cent) did feel that a need existed for such a facility, while over half, (52.4 per cent) indicated that they would utilize such a centre. The reason that this latter response was not more positive was because of the great distances that many of these people would have to travel to the centre. Also, 74.3 per cent indicated that their children were presently receiving dental care on a regular basis and 68.4 per cent were satisfied with the care being rendered. These needs are presently being met by private dentists (28.9 per cent), the Saskatchewan School Dental Plan (41.7 per cent), employing dental therapists and salaried dentists operating in the school systems, two specialists in children's dentistry (20.8 per cent) operating out of the College of Dentistry, University of Saskatchewan and University Hospital, or a combination of these services.

In several cases the parents stated that they would be more inclined to use the proposed service if the dental and medical appointments could be coordinated to minimize the travel involved. Only 12.8 per cent reported any difficulty in obtaining dental care for their children.

Of the 18.2 per cent of respondents who reported that they were not satisfied with the present care that their children were receiving, a variety of reasons were given. The most often reported complaint did not

TABLE I

Importance of dental care

Question	Yes		Response		No response	
	N	%	N	%	N	%
Receive regular dental care	139	74.3	43	23.0	5	2.7
Difficulty obtaining dental care	24	12.8	155	82.9	8	4.3
Satisfied with care received	128	68.4	34	18.2	25	13.4
Regular dental care is important	180	96.3	4	2.1	3	1.6

TABLE II

Where does your child go for dental care?

Private dental practitioner		Pedodontist		School dental plan		Child too young		No response	
N	%	N	%	N	%	N	%	N	%
54	28.9	39	20.8	78	41.7	16	8.5	12	6.4

Note: N = 199 since some children had services provided by several sources.

relate to the quality of care, but rather to the adequacy of the facilities. The specific complaint in this case was the lack of provision to accept a patient in a wheelchair in the dental office.

A similar number of parents stated that they felt their child could benefit by more frequent examination and treatment sessions than they were presently receiving. Check-up examinations every four months were suggested. The frequency of care may be inversely related to the next most often reported area of dissatisfaction. Parents felt that the dentists had difficulty coping with these children because of the stress and anxiety experienced by the children when faced with dental treatment. It was felt that the dentists "lost patience, became irritated, and rushed the treatment", with the possibility that the quality of care was not as high as that received by non-handicapped children. These parents also felt that little attention was paid to providing preventive dental services for their children.

Of the respondents who noted there was difficulty in obtaining dental care, it was reported that the dentists refused to provide care because they considered the children uncooperative. Some parents felt that the wait for an appointment appeared inor-

dinately long when the dental office became aware that the prospective patient suffered from a handicap. These findings were reported for the school-based clinics as well as for private dental offices. In some of these reported cases, treatment was refused and the child referred to one of the specialists, or an examination and dental prophylaxis were the only services rendered.

As would be expected, 96.3 per cent of parents or guardians felt that dental care was important for their children. Although 79.2 per cent replied that their child had not experienced the pain of toothache, they had some difficulty in reporting this finding because many of the children could not communicate effectively with the parent.

The fact that 94.7 per cent of the children lived at home meant that the responses to the question regarding who cleaned the child's teeth can be relied upon as accurate. It is of interest that 49.7 per cent of the time respondents noted that, oral hygiene procedures were left to the child alone to perform. The finding that 58.8 per cent of the children did not use floss and 12.8 per cent used it only occasionally could reflect the difficulty experienced by the parents in eliciting the level of cooperation necessary to perform this procedure.

Difficulty arose with the question concerning the need for premedication and general anaesthesia. While this question sought to measure the need for these services, many parents felt that they were not able to assess this need. As a result, 30.0 per cent did not respond to this question.

A large majority of the parents, (74.9 per cent), were satisfied with the general appearance of the dentition of their children. This could be interpreted in two ways. It is possible that for most of these children, dental care was adequately provided to the parents' satisfaction. Alternately, this could also mean that many parents had a low perception of the dental health and needs of their handicapped child.

CONCLUSIONS

The stated purpose of the survey was to assess the perception of the parents of handicapped children regarding their child's dental health and needs, as well as to assess the need for a centralized dental care facility for the handicapped.

The study sample surveyed consisted of the parents and/or guardians of 187 handicapped children. A large majority (74.9 per cent) reported satisfaction with the appearance of their children's teeth. This could be interpreted as being reflective of high quality dental care being adequately provided, or, alternately, it could reflect a low perception of the dental health and/or needs of their handicapped child.

Over half (66.9 per cent) of respondents did feel that a need existed for the establishment of a dental care facility for the handicapped, and 52.4 per cent indicated they would make use of such a facility. It was believed by many parents that such a facility would have a greater potential of utilization if medical, dental, and other rehabilitative services for the child could be coordinated among the various services housed in such a facility.

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Reprint requests to Dr. McDermott.

TABLE III

Condition of teeth

Question	Response					
	Yes		No		No response	
	N	%	N	%	N	%
Has your child ever had a toothache?	32	17.1	148	79.2	7	3.7
Has your child ever had a tooth extracted?	64	34.2	121	64.7	2	1.1
Has child experienced difficulty chewing?	45	24.1	139	74.3	3	1.6
Satisfied with appearance of child's teeth?	140	74.9	44	23.5	3	1.6
Child better off with teeth extracted?	2	1.1	180	96.3	5	2.6
Does your child require (a) Premedication	18	9.6	113	60.4	56	30.0
(b) General anesthesia	37	19.8	112	59.9	38	20.3

TABLE IV

Who usually cleans your child's teeth?

Child alone		Child with assistance		Another adult		Father		Mother		No response	
N	%	N	%	N	%	N	%	N	%	N	%
93	49.7	23	12.3	9	4.8	10	5.4	54	28.9	15	8.0

TABLE V

Is dental floss used to clean your child's teeth?

Yes		No		Occasionally		No response	
N	%	N	%	N	%	N	%
49	26.2	110	58.8	24	12.8	4	2.2

TABLE VI

Need for a centralized clinic to treat handicapped patients

Question	Response				No response	
	Yes		No		N	%
	N	%	N	%	N	%
Is there a need for a centralized centre?	125	66.9	44	23.5	18	9.6
Would your child attend such a clinic?	98	52.4	68	36.4	21	11.2

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LA DOULEUR DENTAIRE DISSÉQUÉE EN TROIS JOURS

Compte rendu de la 1^{ère} conférence mondiale
"DENTAL AND PULPAL PAIN: MECHANISMS AND MANAGEMENT".

Christiane Mascrès, DrCD, PhD
Professeur titulaire, Stomatologie
Faculté de Médecine dentaire, Université de Montréal

SOMMAIRE

La première "conférence mondiale sur la douleur dentaire et pulpaire (mécanismes et contrôle)" a eu lieu à New York les 25, 26, 27 octobre 1985. Elle réunissait plus de deux cents participants subjugués par les exposés et les discussions de quatorze conférenciers ou modérateurs américains, canadiens et suédois dont la liste prestigieuse s'énonce ainsi: I.B. Bender, G. Bergenholtz, M. Brännström, C. Cox, L. Edwall, M. Goldman, N. Kahn, S. Kim, L. Olgart, D. Pashley, S. Seltzer, B. Sessle, H. Trowbridge, R. Walton.

Les informations apportées par ces conférenciers sont modernes et précises, et collent intimement à un sujet qui est d'une façon permanente au coeur de l'actualité: l'odontalgie.

SUMMARY

The first world conference on dental and pulpal pain (mechanisms and control) took place in New York on October 25, 26 and 27, 1985. More than 200 delegates attended and were captivated by the lectures and discussions of the program. Fourteen American, Canadian and Swedish speakers participated. They are: I.B. Bender, G. Bergenholtz, M. Brännström, C. Cox, L. Edwall, M. Goldman, N. Kahn, S. Kim, L. Olgart, D. Pashley,

S. Seltzer, B. Sessle, H. Trowbridge et R. Walton.

The information they all provided was up-to-date and up to the point. It was closely linked to odontalgia, a subject which is always topical.

Définir la douleur

La douleur était auparavant reconnue comme une sensation résultant d'un stimulus nocif, avec une localisation, une intensité, une durée variables.

Elle est maintenant conceptualisée comme une expérience multifactorielle, modifiable d'après des influences cognitives, émotionnelles et motivationnelles qui sont en relation avec les expériences passées du patient.

Au niveau de la sphère oro-faciale qui nous intéresse particulièrement, les stimuli excitent certains types de récepteurs. Les signaux sont transmis par des fibres nerveuses spécifiques afférentes, de ces récepteurs au ganglion trigéminal puis au cerveau où ils peuvent agir à différents niveaux: par des réponses musculaires réflexes, par exemple, ou aux centres plus spécialisés du thalamus et du cortex cérébral responsables de la perception, ou par des réactions émotionnelles à un stimulus douloureux.

L'activité des neurones qui transmettent la douleur au cerveau peut être toutefois modulée. Par exemple, la réponse de ces neurones à un stimulus douloureux au

niveau de la pulpe dentaire ou au visage, peut être supprimée par la stimulation d'autres tissus périphériques, ou par l'action neurochimique intrinsèque du système cérébral qui relâche par exemple des neuropeptides endogènes de type encéphaline. L'activité des neurones trigéminalisés peut aussi être altérée par des procédures thérapeutiques ou par des traumatismes associés avec la déafférentation. Ainsi, des manipulations endodontiques standard qui s'accompagnent d'une déafférentation de la pulpe, provoquent des changements dégénératifs des nerfs dentaires périphériques, associés à des changements morphologiques marqués des neurones du complexe nucléaire trijumeau du tronc cérébral. Ces neurones voient leur fonction physiologique désorganisée: ils deviennent hyperexcitables et leurs réponses aux stimuli oro-faciaux, anormales. En pratique stomatologique, certaines douleurs chroniques rebelles peuvent s'expliquer de cette façon. Toute intervention bucco-dentaire incluant l'endodontie et conduisant à une déafférentation peut ainsi être responsable de sévères douleurs chroniques oro-faciales (B.J. Sessle).

La douleur pulpaire — mécanismes et différentes théories

La pulpe dentaire contient des fibres nerveuses sensitives de deux types, A δ et C

qui fonctionnent essentiellement comme des nocicepteurs. Les fibres A δ , recouvertes de myéline, répondent aux stimuli physiques mécano-sensitifs par une douleur rapide, aiguë, qui induit un réflexe de retrait, et sont excitées avant toute lésion clinique tissulaire. Une pression brusque augmente leur activité alors qu'une pression prolongée ou une hypoxie la diminuent. Les fibres C, au contraire, sont des fibres nerveuses sans myéline. Excitées lorsque les tissus sont endommagés, elles transmettent une douleur sourde, retardée, qui limite la fonction. Une pression rapide augmente aussi leur activité et, comme les fibres de type A δ , une pression prolongée la diminue. Elles sont cependant résistantes à l'hypoxie, et, contrairement aux fibres A δ , sont activées par la bradykinine et l'histamine. Au cours de la douleur qui accompagne l'inflammation, les fibres A δ sont d'abord activées et la douleur est aiguë et violente. Plus tard, les deux types de fibres A δ et C sont activées et la douleur devient plus sourde. Ces fibres nerveuses sont sensibles au changement de l'environnement, et des facteurs endogènes ou exogènes comme une modification de la pression sanguine locale, l'intervention des médiateurs chimiques de l'inflammation, ou l'afflux de métabolites de la carie, peuvent en modifier la fonction. Les fibres C qui sont abondantes dans le tissu pulpaire contiennent des substances vasoactives qui médient les réactions inflammatoires locales. Toute inflammation pulpaire s'accompagne donc des modifications variables de la sensibilité (H. Trowbridge — L. Olgart).

Les nerfs sympathiques intrapulpaires participent au phénomène douloureux. Par une réaction en cascade, la noradrénaline va réduire la pression sanguine locale. L'excitabilité des nerfs sensitifs se trouvera déprimée. Parmi les métabolites de la carie, les acides organiques vont réduire la réponse nerveuse alors que l'urée, l'indol, l'ammoniac et certains enzymes, par exemple, augmentent l'excitabilité des nerfs (L. Olgart).

Bien que certains auteurs comme Fearnhead ou Lilja, aient affirmé qu'un sur quatre ou un sur dix tubules dentinaires contiennent des nerfs, et que Frank en ait observé dans la prédentine, aucun critère acceptable permet actuellement d'affirmer que la dentine abrite effectivement des nerfs. L'odontoblaste agit lui-même comme une cellule réceptrice, riche en nocicepteurs (H. Trowbridge). Les odontoblastes ne sont cependant pas indispensables, d'après Brännström, à la transmission de la douleur. Les fibres nerveuses intrapulpaires seraient aussi relativement résistantes à la nécrose. On explique mieux ainsi que la douleur puisse accompagner les lésions inflamma-

toires intrapulpaires avancées jusqu'au stade extrême de la gangrène pulpaire.

Les descriptions cliniques distinguent la douleur pulpaire proprement dite de l'hyperesthésie dentinaire, cette douleur "exquise" ressentie par certains patients dans la vie de tous les jours, lorsque la dentine est dénudée. En 1964, Brännström exposa la théorie hydro-dynamique expliquant le mécanisme de l'hyperesthésie dentinaire, et cette théorie demeure incontestée. Les tubules dentinaires contiennent un fluide dentinaire qui est capable de se mobiliser dans les deux directions: vers la surface de la dent, ou en direction pulpaire, suivant le geste appliqué par le praticien. Appliquer une solution sucrée, du cavit, ou un jet d'air pendant une minute sur une plaie dentinaire, va déplacer le fluide vers la surface de la dent et infliger une douleur occasionnée soit par osmose dans le cas de la solution sucrée, soit par le dessèchement dentinaire. L'air déplace les noyaux des odontoblastes dans la prédentine et éventuellement dans la dentine. La douleur est remplacée par une insensibilité dentinaire due à la destruction complète des fibrilles de Tomes si l'on prolonge l'application du jet d'air dans la cavité. Un jet d'eau sous pression déplacera par contre le fluide intratubulaire vers la pulpe. Le praticien averti mesure son geste, car les mouvements du fluide intratubulaire sont traduits en signaux douloureux par les récepteurs sensoriels de la pulpe sous-jacente. Le mouvement rapide du fluide dentinaire transmet un stimulus douloureux aux terminaisons nociceptives des fibres A δ , qui répondent par une douleur vive. Le déplacement intratubulaire du noyau de l'odontoblaste est, quant à lui, le plus souvent irréversible et génère la perte de la cellule.

D'après L. Edwall, on reporte chez l'homme une douleur pulpaire après des stimuli non ressentis par l'animal. Ces stimuli sont par exemple, les températures modérées, l'application d'histamine ou de bradykinine, etc. . . À l'aide d'un analyseur combinant des applicateurs intradentaires et un système d'enregistrement relié à la fois à la dent du patient et à un gadget digital permettant à celui-ci des gestes pouvant signaler neuf différentes intensités douloureuses ressenties, certaines conclusions ont pu être tirées. Une stimulation brève par le froid provoque une douleur parfaitement reproductible lorsqu'on laisse à la pulpe le temps de se réchauffer. Par contre, une stimulation prolongée par le froid provoque un blocage de la fonction nerveuse. D'autre part, une seule stimulation brève par la chaleur entraîne des variations dans les réponses ultérieures qui deviennent difficiles à interpréter. De plus, une stimulation prolongée par le chaud entraîne des lésions pulpaires permanentes. Lorsque les dents

adjacentes sont bien isolées, le test thermique au froid est donc bien plus efficace que le test "au chaud".

Hypersensibilité dentinaire et pulpalgies sont deux expressions possibles des odontalgies. La maladie périapicale et l'atteinte du périodonte marginal sont à compter aussi parmi les causes de douleur dentaire. Par exemple, au cours de la maladie périapicale, la douleur peut être provoquée par une perturbation du syndrome d'adaptation locale tel que l'a décrit H. Selye, au moyen de facteurs microbiologiques et immunologiques, par des changements dans la pression des tissus péri-apicaux et par des influences psychologiques (S. Seltzer).

L'odontalgie. Quelques remèdes. . .

Lorsque les mécanismes de la douleur sont clarifiés, il est plus facile de mettre au point des stratégies de traitement efficaces. L'organe pulpo-dentinaire possède certains mécanismes de défense naturelle. Deux d'entre eux sont précoces. Ce sont la douleur dentaire qui sert d'avertisseur au patient et les premières étapes de l'inflammation, avec ses changements vasculaires et cellulaires. Certains sont aussi plus tardifs: ils impliquent la cicatrisation sous forme de dentine scléreuse et de dentine d'irritation intrapulpaire, et une ébauche de reminéralisation de la dentine exposée. C'est le rôle des bases, des obturations bien choisies et bien insérées, que d'activer cette réparation.

Il est aussi nécessaire de réduire la percolation qui, permettant aux produits toxiques de diffuser jusqu'à la pulpe, s'accompagne de douleurs post-opératoires par modifications du liquide intra-tubulaire, et provoque une inflammation après la pose d'une obturation. On peut réduire ce risque en désinfectant les parois, en enlevant la couche superficielle infectée, et en bloquant par du vernis la communication entre l'entrée des tubules et le liquide intratubulaire.

Lorsque la dentine calcifiée est exposée, de 10 à 15,000 tubules par mm² sont ouverts. Le fond de la cavité doit cependant être séché si l'on veut que le ciment adhère. D'après la théorie hydro-dynamique de Brännström, on risque d'observer une fuite par évaporation du liquide intratubulaire, si certaines précautions ne sont pas prises. Tout en modulant le dessèchement superficiel, il est préférable, par exemple, non pas de diriger le jet d'air dans la direction des tubules, mais de le diriger perpendiculairement à ceux-ci. Le contenu intratubulaire pourra être ainsi respecté.

La dentine sensible est une dentine perméable, alors que la dentine non sensible est imperméable. Si l'on enlève la couche de surface en nettoyant trop énergiquement le fond de la cavité avant séchage et inser-

tion du matériau d'obturation, on augmente la perméabilité de la dentine. Par contre, si l'on obture l'entrée des tubules, on obtient une diminution de la douleur. Tout ce qui obture l'entrée des tubules diminue la sensibilité de la dent. Mais tout ce qui désensibilise la dentine ne provoque pas une occlusion des tubules. L'action des agents désensibilisants se résume donc par deux mécanismes: le blocage des tubules, et le blocage de l'activité nerveuse en altérant l'excitabilité des nerfs sensitifs (Brännström).

Comment fermer les tubules? Les moyens les plus simples sont souvent les plus spectaculaires. Par le brunissage de la couche superficielle. A sec, avec un bâtonnet de bois d'oranger, un ciseau à émail, une fraise ronde no 6, une fraise cône renversé. Cette technique diminue la perméabilité de la dentine de 80 pour cent. Ou en utilisant des topiques médicamenteux. Bien que cette méthode soit douloureuse au cours du séchage, elle permet la précipitation de "cristaux de carie" à l'intérieur des tubules. On utilise par exemple du fluorure de sodium qui diminue la perméabilité de 75 pour cent, ou de l'hydroxyde de potassium à 3 pour cent, lui aussi parfaitement efficace (D. Pashley); ou du nitrate d'argent, ou de l'oxalate de potassium (Brännström). Ou encore, des imprégnations de résine.

Comment bloquer l'activité nerveuse en altérant l'activité des nerfs sensitifs pulpaire?

Différents agents chimiques employés en topique à différentes concentrations peuvent modifier leur activité. Par exemple, le sodium l'augmente, le lithium et l'aluminium provoquent peu de changements. L'oxalate ferrique bloque par contre l'activité nerveuse d'une manière semi-permanente. Les composés à base de potassium, comme le citrate de potassium ou le chlorure de potassium, sont efficaces, mais moins que le bicarbonate de potassium, chez l'homme ou chez l'animal.

Une augmentation de la concentration de l'ion potassium à l'extrémité libre du nerf diminue ou bloque l'entrée de l'ion Na⁺ dans la membrane nerveuse (accommodation axonale). Il s'ensuit une diminution de l'activité nerveuse, c'est-à-dire de la sensibilité de la dent. Mais celle-ci est transitoire et dure de 2 à 3 minutes.

Le chlorure de strontium (l'un des composants du "Sensodyne") est aussi efficace chez l'animal que le nitrate de potassium du "Denquel". L'activité des nerfs sensitifs pulpaire se voit diminuée tandis que s'estompe la sensation de douleur (S. Kim).

Un autre moyen accessoire pour bloquer la douleur, spécialement si l'on a un geste thérapeutique à poser, est l'injection intraligamentaire. C'est une injection qui peut être inconfortable et dont le succès est

assuré seulement si l'anesthésique contient de l'adrénaline. L'anesthésie intéresse alors au moins deux dents adjacentes, ce qui rend cette technique inappropriée pour poser un diagnostic topographique précis. Elle agit en arrêtant la circulation intrapulpaire pendant au moins une heure, et peut provoquer une hémorragie intrapulpaire importante. Les fibres A δ sont très sensibles à l'anoxie; ce sont donc les modifications de l'oxygénation et non la pression elle-même qui provoquent l'anesthésie. Cette technique conduit à une nécrose pulpaire lorsqu'une intervention prothétique (comme la taille d'une couronne par exemple) suit immédiatement l'injection. Par contre, elle peut être recommandée dans le cas de traitement endodontique, ou pour une extraction. Elle produit aussi une chute de la circulation systémique, sévère, soudaine et transitoire (S. Kim).

Cet effet systémique entraîne chez le chien en 5 à 10 minutes, une chute de 25 pour cent de la pression sanguine. L'effet de l'injection intraligamentaire équivaut à celui observé au cours d'une injection intraveineuse ou intra-osseuse et implique hypotension et tachycardie (D. Pashley). Les vaisseaux intra-osseux sont probablement la voie de diffusion empruntée par l'anesthésique, ce qui explique la rapidité de la réaction systémique. On n'observe habituellement pas de nécrose du ligament, mais parfois des lésions superficielles de l'os crestal et du ciment. Enfin, outre la nécrose pulpaire possible après hémorragie, au niveau de toute dent qui a subi une préparation extensive, la dent permanente peut développer une hypoplasie de l'émail (dent de Turner), si l'injection intraligamentaire a été appliquée au niveau de la molaire primaire sus-jacente (S. Kim — R. Walton).

Une revue des analgésiques et de leur efficacité complète le tour d'horizon sur l'odontalgie, ses mécanismes et ses palliatifs (N. Kahn).

Cette première conférence mondiale sur la douleur dentaire et pulpaire doit être considérée réellement comme un succès, une "première mondiale". Elle devrait être suivie par d'autres congrès similaires, au fil du temps. L'immersion nécessaire dans certaines notions arides, pour comprendre les mécanismes de la douleur ou de l'inflammation, s'est faite en douceur, avec des informations simplifiées quoique modernes. L'organisation du congrès lui-même était au delà de tout reproche, tant dans le choix des conférenciers, l'articulation des exposés, que dans les détails matériels intéressant le confort de l'auditeur lui-même. Un recueil des conférences devrait être publié sous peu. Déjà, seize cassettes couvrant les sujets présentés sont à la disposition des amateurs. Assez pour regretter de s'être privé d'une fin de semaine à New York.

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Announcements

MAY/MAI 1986

May to October 1986: Vancouver and District Dental Society in conjunction with the Inter-Specialty Dental Society of British Columbia will be presenting multidisciplinary seminars, endorsed by the College of Dental Surgeons of British Columbia, from May through October 1986 to coincide with Expo '86. Limited Attendance. Inquire early by contacting Susan Ryan, c/o Vancouver and District Dental Society, 1125 West 8th Avenue, Vancouver, B.C. V6H 3N4. 604-734-0717.

May to October 1986: Expo '86. Continuing Dental Education, presented by the University of British Columbia. Multidisciplinary seminars in Vancouver, B.C. Contact: Continuing Dental Education, 105-2195 Health Sciences Mall, Vancouver, B.C. V6T 1W5 604-228-2627.

May 21-23, 1986: International Life Sciences Institute, Symposium on Sweetness. International Conference Centre of Geneva, Switzerland. Contact: Symposium Secretariat, Conference Associates ILSI, 27A Medway Street, Westminster, London SW1P 2BD, England.

May 21-23, 1986: Expodent 1986 Trade Fair and Congress for Present Day Dentistry and Dental Technology. Utrecht, Holland. Contact: Royal Netherlands Industries Fair, Postbus 8500, 3503 RM, Utrecht Holland.

May 23-26, 1986: The 34th Annual Fitzgerald Dental Radiology Workshop will be held at the Delta Mountain Inn, Whistler, B.C. Contact: Dr. O.F. Wright, #330-5655 Cambie St. Vancouver, B.C. V5Z 3A4, 604-261-8021.

May 25-29, 1986: Journées Dentaires du Québec. Palais des Congrès de Montréal, Québec. Pour informations, communiquer avec le docteur Michel Jahjah, président du Conseil de gestion des Journées dentaires, 625 boul. Dorchester ouest, 5^e étage, Montréal, Québec H3B 1R2, Tél: 514-875-8511.

May 29-30: Summer Institute on Interdisciplinary Management of AIDS, presented by the Algonquin College of Applied Arts and Technology, Congress Centre, Ottawa, Ontario. Contact: Lynn Ruff, Algonquin College, Building E Room 101, 1385 Woodroffe Ave., Nepean, Ontario. K2G 1V8 613-727-7618.

May 29-31: Myotronics Research presents a seminar entitled "Neuromuscular Principles in Oral Surgery", Seattle, Washington. Contact: Merry Ashley, Myo-tronics Educational Programs, 1-800-426-0316)

May 30-31: Columbia University School of Dental and Oral Surgery hosting a conference entitled "Implantology Today: Its Role in Dental Practice." Contact: Ms. Gloria Finkelstein, Program Coordinator, Columbia University, 630 W 168 St. New York, NY 10032 212-305-4172.

May 31: Variety Club presents a gourmet dinner and auction, "Black Tie and Sawdust". Toronto Hilton Harbour Castle Convention Centre. Tickets: \$200. Proceeds to Variety Club of Ontario. Contact: Judith, 416-961-7300.

JUNE/JUIN 1986

June 2-4: National Institutes of Health Consensus Development Conference on The Utility of Therapeutic Plasmaphere-

sis for Neurological Disorders. Masur Auditorium, Warren Grant Magnuson Clinical Centre, Bethesda, Maryland. Contact: Nancy Cowan, Prospect Associates, 2115 East Jefferson St., Suite 401, Rockville, Maryland. 20852.

June 7-8: Dr. Henri Petit, Orthodontist at Baylor University, Dentofacial Orthopedics. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Baillargeon at (514) 463-1281 for details.

June 7-13: Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada is holding the ACFD/CADR XIV Biennial Conference on Dental Education and Research. The Nottawasaga Inn, Alliston, Ontario (North of Toronto.) Contact: Mrs. Stella M. Taylor, Administrative Assistant, The Association of Canadian Faculties of Dentistry, 5059 Dentistry Pharmacy Building, University of Alberta, Edmonton, Alberta, T6G 2N8, 403-463-8371.

June 13-14: L.D. Pankey Association presents Dr. John Nasedkin in a seminar entitled "The Key to Successful Restorative Dentistry: Practical Aspects of Comprehensive Care and the Occlusal Cycle." London, England. Contact: Conference Organizer, L.D. Pankey Association, The Old Bothy, Norwood Hill, Nr. Horley, Surrey, England RH6 OHP.

June 20-23: Canadian Academy of Periodontology Annual Scientific Meeting and National Periodontal Teaching Conference. Sheraton Hotel, Halifax Nova Scotia. Contact: Dr. Ed Hannigan, 590-5991 Spring Garden Road, Halifax, N.S. B3H 1Y6.

June 22-23: The International Conference on Ventures in Dental Materials, Kurhause Hotel, Scheveningen-The Hague, Holland. For further information contact: Sybil Greener, Academy of Dental Materials, Northwestern University Dental School, 311 East Chicago Ave., Room 10-019, Chicago, Ill. 60611, 312-943-8410.

June 26-29, 1986: 10th International Symposium on Dental Hygiene. Oslo, Norway. Scandinavia Hotel. Contact: The Scientific Committee, 10th International Symposium on Dental Hygiene, P.O. Box 438, 1301 Sandvika, Norway. For more information contact either Inger-Lise Bryhni or Elisabeth Olsen Kolbjornsen at the above address.

June 27-28: Joint meeting, Association of Prosthodontists of Canada and Canadian Academy of Prosthodontics in conjunction with Expo '86, Vancouver, B.C. Canada. Contact: Dr. C. Osadetz, 1046 Dentistry/Pharmacy Building, University of Alberta, Edmonton, Alta. T6G 2N8. 403-432-3631.

June 30-July 4: The 8th Congress of the International Association of Dentistry for the Handicapped, Bergen, Norway. Contact: Dr. Marit Moland, Helsm Vei 19, 5032 Minde, Norway.

June 30-July 7: Yukon Dental Association's 6th Annual Summer Convention. June 28-29 Continuing Education Seminar in Whitehorse, Yukon. June 30-July 7, Midnight Sun Canoe Trip. Contact: Dr. Chuck Hazen, 5110-5th Ave. Whitehorse, Yukon. Y1A 1L4, 403-668-6707.

JULY/JUILLET 1986

July 1, 1986: Applications are being accepted for the **Postdoctoral program, Dental Diagnostic Science at the Univer-**

sity of Texas, Health Science Center at San Antonio for the class beginning **July 1, 1986.** Address inquiries to: Office of the Associate Dean for Advanced Education, The Dental School, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio TX. 78284.

July 4-6: Dentistry '86, the British Dental Association Annual and Scientific Meeting. Manchester, England. Contact: Helen MacKay, Meeting Planner, 64 Wimpole St. London, W1M 8AL.

July 6-11, 1986: The World Dental Conference, Jerusalem, Israel. Deadline for submission of Abstracts: **March 15, 1986.** Contact: Rifka Boruchowicz or Dalia Raif, convention co-ordinators, Diamond International Tours Inc, 1183 Finch Avenue, Suite 203, Downsview, Ontario. M3J 2G2, 416-663-9100.

July 6-11: 6th International Congress of Immunology, Toronto, Ontario. Contact: Dr. Bernhard Cinander, Chairman, International Congress of Immunology 416-978-6120, or Dr. Philip Halloran, Press Liaison Officer, Congress Organizing Committee, 416-586-5185.

July 29-August 2: Alberta Dental Association Annual Convention, Grand Centre, Cold Lake, Alberta. Contact: Dr. David Lawton, P.O. Box 2110, St. Paul, Alberta. T0A 3A0. Telephone: 403-645-3769.

AUGUST/AOÛT 1986

August 3-9: Puppetteers of America 47th Annual Festival, UBC, Vancouver, British Columbia. Contact: Luman Coad, 1384 Hope Road, North Vancouver, B.C. V7P 1W7.

August 4-5: National conference on the woman dentist, ADA headquarters,

Chicago, Illinois. Contact: The Bureau of Dental Society Services, ADA, 211 East Chicago Ave., Chicago, Ill., 60611, 312-440-2600.

August 18-21: Canadian Academy of Pediatric Dentistry presents the 7th Canadian Congress on Dentistry for Children, University of British Columbia, Vancouver, B.C. Contact: Dr. R.E. Patton, Suite 801, 925 W. Georgia St., Vancouver, B.C. V6C 1R5 604-685-5620.

August 22, 23, and 24: Dr. Waldemar Brehn, Advanced Mechanics. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Baillargeon at (514) 463-1281 for details.

August 24-27, 1986: Canadian Dental Association Annual Convention. Halifax Nova Scotia. Contact: CDA, 1815 Alta Vista Dr. Ottawa, Ont. K1G 3Y6.

August 25-29, 1986: Biennial Conference of the New Zealand Dental Association, Wellington, New Zealand. Contact: Conference Secretary, New Zealand Dental Association, P.O. Box 3709, Wellington, New Zealand.

SEPTEMBER/SEPTEMBRE

September 15-19: Annual Conference of the Canadian Society of Forensic Science, Sheraton Brock Hotel, Niagara Falls, Ontario. Contact: Executive Secretary, Canadian Society of Forensic Science, 2660 Southvale Crescent, Suite 215, Ottawa, Ontario, K1B 4W5, 613-731-2096.

September 20-21: Canadian Craniofacial Society symposium and annual general meeting. Toronto Hospital for Sick Children, Toronto, Ontario. Contact: Dr. Gordon Wilkes, 1004-10045 - 111 St. Edmonton, Alta, T5K 2M5.

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CANADIAN DENTAL ASSOCIATION

INSTRUCTIONS FOR CONTRIBUTORS

(Scientific articles)

Previously unpublished articles, critical reviews of material on advances in dentistry and clinical reports are welcomed by the Journal of the Canadian Dental Association for consideration for publication. Material is accepted by the Journal on the understanding it is submitted solely to this publication.

Scientific Articles:

should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

Major Reports:

are longer contributions dealing with diagnosis and treatment of dental disease, studies in education, clinical and laboratory research and other detailed investigations pertinent to dentistry and related fields.

Clinical Reports:

are brief (up to 1,500 words) reports, case histories and clinical observations. References should be limited and a minimum number of illustrations used.

Opinions:

fully documented (800 words or less), are welcome for publication at the discretion of the editor.

Word Count:

is based on the calculation of approximately 250 words typed, doubled-spaced on $8\frac{1}{2} \times 11$ paper.

Manuscript Requirements:

Submit three (3) copies (original and two copies) to the editor, Journal of the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6. All graphs, photographs, charts and tables must also be submitted in triplicate.

A covering letter and a summary of the submission must accompany each article. Abstracts will be translated into French. The full mailing address of the corresponding author must accompany each manuscript.

The editor reserves the right to edit manuscripts for stylistic consistency, clarity and conciseness. The corresponding

author will receive a copy of the edited manuscript for checking prior to publication. Galley proofs will be forwarded to authors but changes other than correction of typographical errors will not be accepted. Authors will be given a 24-hour turnaround time. No exceptions will be made. Authors must list professional degrees, academic/hospital affiliations and appointments and are requested to **submit a photograph** of themselves for publication with the article.

Note:

Manuscripts must be typed, doubled spaced on $8\frac{1}{2} \times 11$ paper on one side of the page only. An abstract must accompany each manuscript.

Article Titles:

must be descriptive but concise and suitable for indexing. Lengthy titles are subject to editing.

Legends:

must be typed as a group on a separate page for all illustrations. Photomicrograph legends must specify magnification and stain.

References:

must be keyed to the text and numbered consecutively. Journal references must give the author's name, article title, abbreviated journal name, volume number, first page number and last page number of article, year of publication:

1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. *JCDA* 44:173-184, 1978.
- For books, give the author's name, book title, location and name of publisher, year of publication:
2. Kilpatrick, H.C. Work simplification in dentistry, ed. 2. Philadelphia, Saunders, 1964.13

Illustrations:

must be high quality and only professional-quality drawings, charts and graphs should accompany manuscripts. Color slides or negatives will not be accepted for publication. Radiographic films are not acceptable. Radiographs must be in the form of black and white glossy prints for successful reproduction. Color photographs will be published only on a limited basis and at the author's expense.

Submit three (3) sets of photographs (black and white, glossy, $3'' \times 5''$), drawings, charts and graphs. Using a grease pencil ONLY, lightly write the name of the

corresponding author and figure number on the back of each illustration and photograph. Indicate 'Top' of each illustration.

Charts and graphs are an addition to the text and should be numbered in order of appearance in the manuscript. Each table should be typed on a separate page with title and footnotes.

The Journal assumes no responsibility for artwork. Camera-ready graphs, charts and drawings only are acceptable. Tabular matter must be cleanly typewritten.

Permission and Waivers:

must accompany the manuscript. Waivers are mandatory for the publication of photographs of patients unless faces are masked to prevent identification. Waiver forms are available from the Journal of the Canadian Dental Association, Ottawa. Permission of the author and publisher must be obtained for use of previously published material quoted in the text and for use of previously published illustrations.

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Four-color illustrations are discouraged because of increasing costs of reproduction but requests for four-color illustrations will be considered on an individual basis, at the author's expense. Most articles are published at no cost to the author but a fee will be levied if extensive illustrative, formular, tabular or photographic matter is used.

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Review:

all scientific articles are reviewed by selected consultant referees. Acceptance or rejection of an article for publication is based on their reports plus editorial consideration. The editor reserves the right to adjust manuscripts to conform to Journal style.

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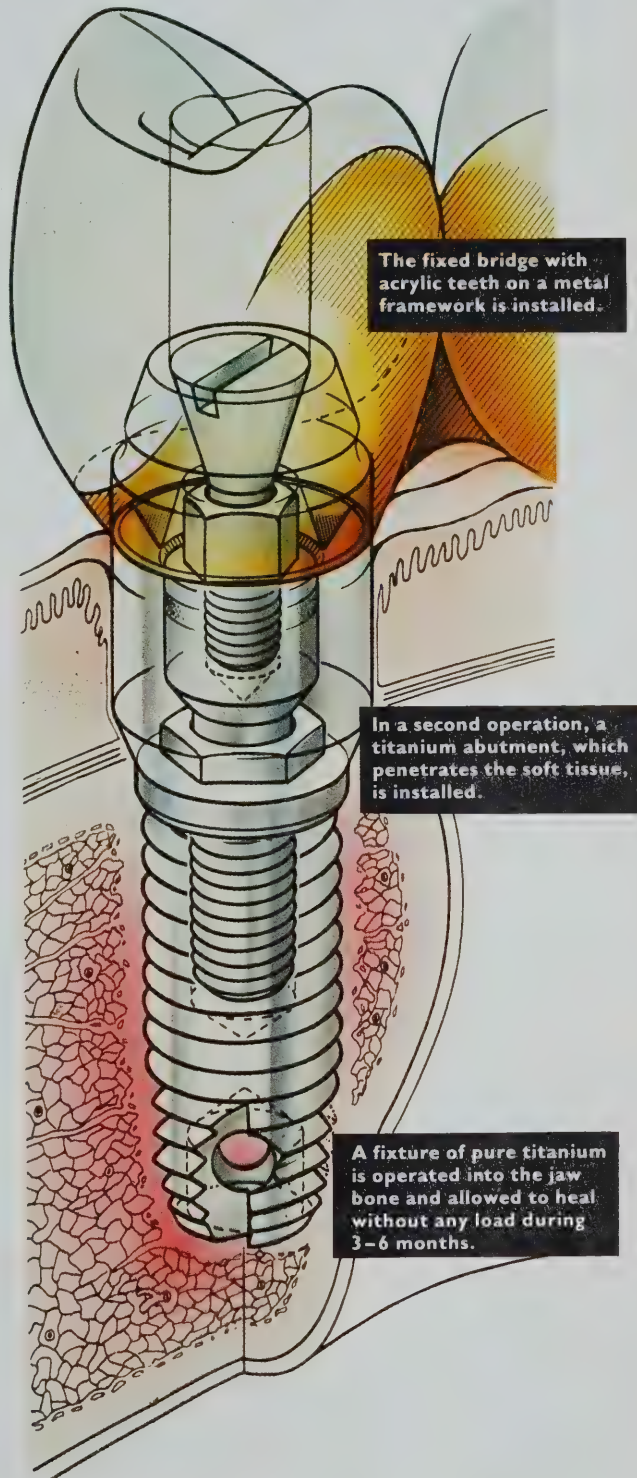
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C.D.A. TEACHING CONFERENCE

PERIODONTICS AND THE DENTAL CURRICULUM

Halifax Sheraton, Friday, June 20, 1986

PROGRAM

8:30	Opening Remarks	Dr. Crawford Bain <i>Head, Div. of Periodontics Dalhousie University Faculty of Dentistry</i>
8:45	CURRICULUM CHANGES BASED ON CHANGING DISEASE PATTERNS	Dr. Jukka Ainamo <i>Chief, Epidemiology National Institute of Dental Research Bethesda, Maryland</i>
9:45	CURRICULUM CHANGES BASED ON TEACHING ADVANCES	Dr. John Eisner <i>Assoc. Prof. of Community Dentistry Faculty of Dentistry Dalhousie University</i>
10:45	Coffee	
11:00	CURRICULUM CHANGES BASED ON RESEARCH DEVELOPMENTS	Dr. Max Listgarten <i>Chairman, Dept. of Periodontology University of Pennsylvania Philadelphia, P.A.</i>
12:15	INTERDISCIPLINARY RELATIONS — IMPLEMENTA- TION OF CHANGE IN A DENTAL FACULTY	Dr. David Donaldson <i>Assistant Dean Faculty of Dentistry University of British Columbia</i>
1:00 -		
3:00	Working Lunch	
WORKING GROUP RESPONSES/RECOMMENDATIONS		
3:00 -	DISEASE PATTERNS	
3:15		Dr. Tevor Chin Quee <i>Director, Div. of Periodontics Faculty of Dentistry, McGill Univ.</i>
3:15 -	TEACHING ADVANCES	
3:30		Dr. Paul Schuller <i>Chairman, Div. of Periodontics Faculty of Dentistry, Univ. of Alberta</i>
3:30 -	RESEARCH DEVELOPMENTS	
3:45		Dr. David Singer <i>Head, Dept. of Diagnosis & Surgical Sciences (Periodontics) College of Dentistry, Univ. of Saskatchewan</i>
3:45 -	IMPLEMENTATION	
4:00		Dalhousie's Dean Elect
	Coffee	
4:15 -	PANEL DISCUSSION	
5:00		
5:15	Cocktails	
P.M.	Dinner	

This meeting immediately precedes the Canadian Academy of Periodontology Annual Scientific Meeting at the Halifax Sheraton, June 21-23. Speakers include Dr. Max Listgarten and Dr. Manny Marks, University of Pennsylvania. For information, contact: Dr. C.A. Bain, Chairman, CDA Teaching Conference, Head, Division of Periodontics, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia, B3H 3J5.

CONFÉRENCE DE L'ADC SUR L'ENSEIGNEMENT LA PARODONTIE ET LES PROGRAMMES D'ÉTUDES DENTAIRES

Hôtel Sheraton de Halifax – le vendredi 20 juin 1986

PROGRAMME

8h30	Mot de présentation	D ^r Crawford Bain <i>Directeur de la Parodontie Fac. de médecine dentaire Univ. Dalhousie</i>
8h45	MODIFICATION DES PROGRAMMES D'ÉTUDES SUIVANT LES CHANGEMENTS DANS L'ÉVOLUTION DES MALADIES	D ^r Jukka Ainamo <i>Directeur de l'Épidémiologie National Institute of Dental Research Bethesda, Maryland</i>
9h45	MODIFICATION DES PROGRAMMES D'ÉTUDES SUIVANT LES PROGRÈS DE L'ENSEIGNEMENT	D ^r John Eisner <i>Prof. adjoint de médecine dentaire communautaire Univ. Dalhousie</i>
10h45	Pause-café	
11h00	MODIFICATION DES PROGRAMMES	D ^r Max Listgarten <i>Directeur de la Parodontologie Univ. de la Pennsylvanie Philadelphie, Penn.</i>
12h15	RAPPORTS INTERDISCIPLINAIRES – MISE EN VIGUEUR DE CHANGEMENTS DANS UNE FACULTÉ DE MÉDECINE DENTAIRE	D ^r David Donaldson <i>Vice-doyen Fac. de médecine dentaire Univ. de la Colombie-Britannique</i>
13h00– 15h00	Déjeuner et groupe de travail	
RÉPONSES ET RECOMMANDATIONS DU GROUPE DE TRAVAIL		
15h00– 15h15	L'ÉVOLUTION DES MALADIES	D ^r Trevor Chin Quee <i>Directeur de la Parodontie Fac. de médecine dentaire Univ. McGill</i>
15h15– 15h30	LES PROGRÈS DE L'ENSEIGNEMENT	D ^r Paul Schuller <i>Directeur de la Parodontie Fac. de médecine dentaire Univ. de l'Alberta</i>
15h30– 15h45	LES PROGRÈS DE LA RECHERCHE	D ^r David Singer <i>Directeur du Diagnostic et de la Chirurgie (Parodontie) Collège de médecine dentaire Univ. de la Saskatchewan</i>
15h45– 16h00	MISE EN VIGUEUR	Le doyen désigné de l'Univ. Dalhousie
	Pause-café	
16h15– 17h00	DÉBAT	
17h15	Réception Dîner	

Cette assemblée précède immédiatement la tenue de l'assemblée scientifique annuelle de l'Académie canadienne de parodontologie qui aura lieu du 21 au 23 juin, à l'hôtel Sheraton de Halifax. Parmi les orateurs, il y aura le D^r Max Listgarten et le D^r Manny Marks, de l'Université de la Pennsylvanie. Pour de plus amples renseignements, on vous prie de communiquer avec: le D^r C.A. Bain, président de la Conférence de l'ADC sur l'enseignement, Directeur de la Parodontie, Faculté de médecine dentaire, Université Dalhousie, Halifax, Nouvelle-Écosse, B3H 3J5.

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ALBERTA—Central—Available now. Well established family practice with six figure net, for sale. Attractive price, could be paid off within one year. Fine recreational area (nearby National Park). Present owner prepared to associate if desired. Please reply to CDA Box No. 2307.

ALBERTA—Calgary. Owner wishing to retire early from established dental practice in central medical-dental building. Two good sized equipped operatories, low overhead and room to expand. Asking a reasonable price and open to offers. Please call (403) 228-7805 days or (403) 242-7961 evenings.

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ALBERTA—Calgary. Excellent opportunity available for two associates to independently operate a modern, busy general dental practice starting summer 1986. Owner is in graduate studies. Phone (205) 991-0391 or reply: Dr. J. Hubor, 205 Inverness Cliffs, Birmingham, Alabama 35243 USA.

ALBERTA—Calgary. Experienced dentist, group practice, computers, business manager. Interest in sports dentistry an asset. Dr. J.T. Boulton 403-283-5596 or write Box No. 2320.

ALBERTA—Edmonton. Busy west-end office requires associate; 4-day work week; good patient load immediately available; office is bright, cheerful and fully equipped. Contact: Dr. Azarko, 403-483-7079. 14938 Stony Plain Rd. Edmonton, Alta. T5P 3X8.

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JAMAICA—Locum of Associateship available in Montego Bay, Jamaica, busy practice. Ideal for experienced, retiring dental surgeon who would like a cultural and new practice experience. Please call 416-727-6891.

OPPORTUNITIES AVAILABLE

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ADVERTISERS INDEX

CDSPI	386, 396, 428, 438
Colgate-Palmolive Canada	383
Computer Utilities Management Limited ..	381
Conference Travel of Canada Inc.	433
Denco/Division of Sybron Canada Ltd.	392, 393
Den-Mat Corporation	OBC
Dentsply Canada Limited	378
Hoechst Canada Inc.	370
Intra-Allan's Travel Service Ltd.	372
McNeil Consumer Products Company	394, 395, 431
Myo-tronics Inc.	366
Nobelpharma Canada Inc.	435
Nova Scotia Tourism	417
Procter and Gamble	IFC
Tridont Dental Centres	384, 385
Trihawk International Inc.	406
Unilever Canada Limited	368, 369
Warner-Lambert Canada Inc.	377
Wright Dental Canada Limited	IBC

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June 15, 1986

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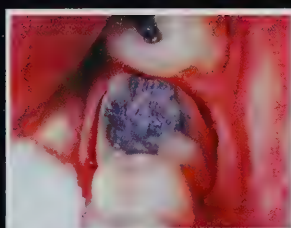
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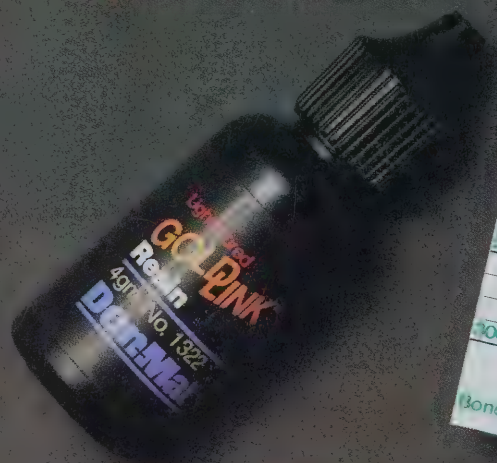
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June/Juin 1986 Vol. 52 No. 6

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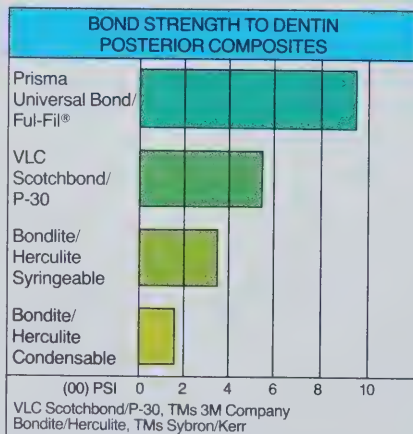
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D E N T S P L Y

JOURNAL

Canadian Dental Association de l'Association Dentaire Canadienne

EDITORIAL 449

NEWS UPDATE 450

BRIEFLY 466

LETTERS 472

CDA RESOURCE CENTRE 477

BOOK REVIEWS 478

Pure Mucogingival Problems

A Guide to a Successful Dental Practice

Fundamentals of Fixed Prosthodontics

Proceedings Consensus Conference: Roles of Vestibuloplasty and Ridge Augmentation in Management of Atrophic Mandible.

The Crozat Technique

A Primer on Dental Practice Management

Clinical Pharmacology for Dental Professionals

ARTICLES 481

A PROFILE OF DENTAL CLINIC PATIENTS 481

G. Wayne Raborn, DDS, MS, FAGD, J.M. Calvert, DDS

NEGOTIATING A HOUSE PURCHASE 485

J. Robert Gardiner, BA, LLB

CLINICAL FEATURE 489

PERIODONTICS: TREATMENT OF JUVENILE PERIODONTITIS

Murray Arlin, DDS, FRCD(C)

PRELICENSURE CONFERENCE 493

THE HARVARD EXPERIENCE 499

Paul Goldhaber, Dean, Harvard School of Dental Medicine

A SWEDISH MODEL OF PRELICENSURE GENERAL PRACTICE DENTISTRY 503

Rod Moore, DDS, MA

BENEFITS AND IMPLICATIONS OF PRELICENSURE FOR THE PUBLIC 507

W. Wilton

IMPACT OF PRELICENSURE ON GENERAL PRACTICE 511

Bradley W. Holmes, DDS, President of the CDA

SCIENTIFIC 513

CARDIOVASCULAR DISEASES AND THE DENTAL PATIENT 513

Catherine Kilmartin, BDS, MSc, DDS, FRCD(C), Charles O. Munroe, MD, BChD, FDSRCS

INFECTIVE ENDOCARDITIS PROPHYLAXIS DURING DENTAL PROCEDURES: THE DENTIST'S POINTS OF VIEW 519

Pierre Auger, MD, MSc, FRCP(C), et al

CLOTRIMAZOLE TROCHE IN TREATMENT OF OROPHARYNGEAL CANDIDIASIS 527

J.D. Awde, BSc, DDS, Dip. Perio, S.L. Kogon, DDS, MSc

LES ASPECTS PSYCHOSOMATIQUES DES DOULEURS MYO-FASCIALES 533

Maurice Bourassa, PhD

CDA RSP 462

OBITUARIES 473

ANNOUNCEMENTS 537

MARKETPLACE 543

ADVERTISERS' INDEX 545

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THIS MONTH'S COVER

Featured on this month's JCD cover is the sparkling world-calibre meeting facility in Halifax, the World Trade & Convention Centre, which will be the scene of most of the 1986 CDA Convention activities. The brick and glass landmark is in the heart of downtown Halifax with modern hotels, restaurants and entertainment nearby. (Photo by Bob Brookes, Halifax)

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FORUM OR AGAINST 'EM

In the last year, though generally not publicized, the Journal has undergone a number of changes, not the least of which is a change in philosophy. A number of years ago, the Journal was seen by the readership as being a highly esoteric, pure scientific publication. While the Journal's mandate is still to publish "original, Canadian, scientific research", the information base of the publication is getting broader all the time.

In recent issues, a number of topics of some controversy have (sometimes unwittingly) been brought to the attention of our readers. Opinions on both sides of several questions have been explored in our various news areas and through the "Letters" column. Though not originally mandated to explore all of the areas the Journal now explores, dental issues have changed and so must the Journal. Possibilities are currently being explored for presenting in these pages a forum for opposing opinions on the same dental subject. Tentatively entitled (what else?) "Forum" this feature will elicit opinions from experts on two sides of a question facing dentistry today, be it human resources, implantology, dental education, research or concerns of various dentally affiliated groups. Whatever the topic, should "Forum" come to pass, it will be likely to evoke some lively discussion — on either side, either for 'em or against 'em! !

This proposed column is only one of several features presented in the Journal in the last year which, we believe, has helped improve our readership and our readability. Answering the cries from our readership, we have begun a series of "clinical features", based upon table clinic presentations made at various dental meetings. Generally shorter and less research oriented than our "scientific" articles, these clinical oriented features are, we hope, going to prove popular with the general practitioner in our audience. In keeping with the Journal's original mandate, these articles too, are original, Canadian clinical articles, and are exclusive to the Journal of the CDA.

In recent months the Journal has also begun a series of short, whimsical columns by a well-known health care writer who wishes to retain his anonymity. "Ad Lib" by "Cuspid" does not presume to tackle dental issues of great import, but merely seeks to inform and amuse our readers with pieces on areas related to dentistry which affect all practitioners. Although we have yet to receive any reader reaction on "Ad Lib", like any other new feature, we expect it will take some time for apathy to be replaced by sympathy or antipathy.

We have also been featuring in several issues, up-to-date membership information. Sporadic at best in the past, information on just what it is CDA does for the average dentist in Canada is now a regular part of the Journal's pages. Designed to be short, to the point and easily read, the membership information can be found most regularly in our "Did You Know" column written by the Chairman of the CDA Membership Committee. So, readers, if you require information about what CDA can do for you, ask and ye shall be given.

There are many more areas and many more issues facing the dental profession which are open for exploration in these pages. Some are editorial pipe dreams, some may be making their debuts sooner than you think.

The effort of keeping current, and continuing one's education in dentistry is an issue that is not confined to the dental profession, but faces the dental publisher/editor as well. Thus, the Journal will continue to change with the times, sometimes be right, sometimes wrong, but always ready to serve its readers, in all of their many guises.

In 1984, we changed the Journal format — in 1986 we're changing the Journal content — in 1987 we just may be able to change your reading habits, and make you pick the Journal up first every month. As someone once said "try it, you'll like it. . . trust me!"

Carolyn Hackland,
Editor

News Update

**CDA CONVENTION
AUGUST 24/27
HALIFAX '86**



**CONGRÈS DE L'ADC
24-27 AOÛT
HALIFAX '86**



"Finnegan", will provide delegates with a generous sample of Down East music and humor at the lobster bash in the Dartmouth Sportsplex. Jim Flynn and Peter Stoney have been billed as "Canada's Ambassadors of Good Cheer."

(Photos: Courtesy of the Nova Scotia Communications and Information Centre, and the Nova Scotia Department of Government Services)



For those spouses who elect to take the South Shore bus tour, or those families who wish to visit the Nova Scotia oceanside attractions, they will see beauty spots such as this community in Lunenburg County.

HALIFAX PROGRAMS ENSURE ENJOYABLE CONVENTION PLUS FAMILY VACATION

Few cities or regions of Canada offer such a wide range of attractions for a satisfying and restful vacation destination for the whole family — as Halifax and environs.

Professionals (including dentists) have a tendency, after many months in a busy, stressful environment, to go on a vacation that is also fast-paced and expensive, according to a psychologist's article published in this Journal several months ago.

Convention '86 in Halifax, August 24-27, offers an outstanding opportunity to combine a relaxing vacation experience for the whole family, with a high calibre scientific program and many other educational opportunities, without breaking the bank.

Halifax — a modern metropolis

Although the scenery, history and hospitality have been charming visitors for several hundreds of years, and picturesque reminders of that past remain, Halifax has moved vigorously and excitingly toward the 21st century, providing all the modern facilities and creature comforts to be found in any major urban community on the continent.

Halifax, which developed beside Canada's finest natural harbor, is the hub of a bustling, growing metropolis of 285,000 residents. The city and area have enjoyed strong new expansion in recent years. Facilities offered in the many modern hotels meet the highest in North American standards. A kaleidoscope of specialty restaurants, notably those offering a mouth-watering array of fresh seafood, provide the fare in comfortable indoor surroundings or in the summer, in outdoor locales. In addition, in the remarkably compact downtown area, one can find live theatre — the Neptune has

achieved international renown — and some quaint and friendly pubs, indoors or outdoors on the terrace, which serve local Nova Scotian beers and ales.

Downtown one can also stroll into shops which display local carvings, quiltwork, woollens, original local fashions, some of which have generated international acclaim, and Mic Mac Indian basketry. Nova Scotia pottery is made from provincial clay and has achieved national attention. Art collectors will be able to view paintings that range from local son Alex Colville's works to a possible rare treasure find. And of course, Halifax, and many other centres in the province are an antique collector's paradise.

Fishing and sailing charters leave from the dockside, right in the downtown area. Five golf courses and numerous tennis courts are within easy access. A side trip to Peggy's Cove provides an intimate introduction to natural beauties of the seaside province.

Visitors may also enjoy the historical displays in the Maritime Museum of the Atlantic or the Nova Scotia Museum, free of charge, or view the ramparts and fort of Citadel Hill, a fortification site since 1749.

Auto tours

Before or after the CDA Convention, the whole family may choose equally delightful tours in a variety of directions from the Halifax base. They may select the Evangeline Trail through old Acadia, made famous in Longfellow's poem, or enjoy the Lighthouse Route, along Nova Scotia' south shore, recalling the province's proud maritime history and visiting picture-postcard communities such as Lunenburg, Chester, Shelburne and Liverpool.

The family may well wish to realize a cherished dream — to drive the breathtaking and beautiful Cabot Trail route in scenic Cape Breton. Or, they may wish to relive a day in 1758 at Louisbourg, with appropriately attired guides, viewing the ancient grandeur of New France within the meticulously restored fortress.

Social and spouses' programs

For those who arrive early for the Convention, a highly appropriate Maritime adventure will be available to a limited number — an outing in a sailboat on Saturday afternoon, August 23. This feature will be available to delegates on a first-come, first-served basis for a nominal fee.

On Sunday morning, the annual fun and fitness event, the Fun Run, has been scheduled by the Canadian Dental Hygienists' Association in the environs of the Dalhousie University campus.

Registration will be open for arriving delegates and the runners at the World Trade and Convention Centre Sunday morn-



ing where bars will be set up and hors d'oeuvres will be available. Convention Committee members will informally greet delegates.

Opening party

Down East hospitality will be prominent at the Convention's opening party on Sunday evening, August 24, with a street market motif. Delegates and spouses may be assured of a complete meal by visiting the many food stations around the room. Down East music will add to the authentic atmosphere and staff will be dressed in sou'westers and other Maritime attire. At a certain point in the festivities, the dignitaries will be escorted into the ballroom, and the Convention will be declared officially open.

The Earl of Dalhousie

A good deal of pomp and color will be added to the occasion by the presence of

the Earl and Countess of Dalhousie. The former's predecessor early in the 1800s played a significant role in Nova Scotia's history, and in the founding of Dalhousie University.

In all other respects, the evening will be an informal one.

Monday's events

The Monday opening breakfast promises to be a memorable occasion and a prominent speaker will add more sparkle to the event.

At noon, delegates will be able to pick up a box lunch in the exhibit area and tour the extensive array of displays being planned by dental industry representatives.

Meanwhile, the spouses will be able to enjoy a food preparation demonstration, a fashion show, featuring Atlantic Canada designing and see fashions through the ages, up to today's styles. The ladies will

be welcomed to the event by Mrs. Margaret Vogan, who has chaired the Convention's Social Program Committee.

A further highlight of this event will be the extensive local crafts displays which will remain throughout Monday and Tuesday.

At 3 p.m. Monday, a heritage walking tour of downtown Halifax is scheduled. The tour will continue until about 4.30.

President's 'Gala'

The major social event of the Convention, the President's 'Gala' will be staged Monday evening in the Halifax Sheraton Hotel. This is the only black tie affair, but, the organizers have promised, it "will not be stuffy." Big Band music will be provided by Atlantic Canada's fastest-rising musical ensemble — the John Alphonse Big Band.

Chamber music will add to the delegates' pleasure while dining.

At noon on Tuesday, August 26, the President's Luncheon has been scheduled in the World Trade & Convention Centre.

Area tours

Two tours have been arranged for the ladies. Three buses will be available for a tour of the Annapolis Valley, with a visit to a winery and luncheon at a noted inn, and three other buses will be standing by for a tour of the South Shore, with lunch at a restaurant on the shores of the Atlantic Ocean.

Lobster party

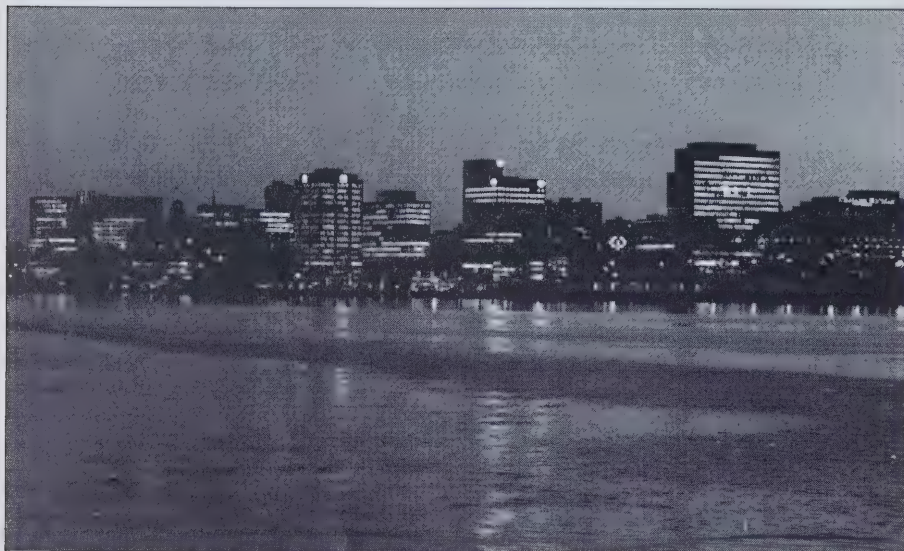
Guaranteed to be one of the highlights of the program for many delegates and probably considered by many to be worth the trip down east, will be the feast of succulent fresh-caught lobster at the Dartmouth Sportsplex, across the harbor from Halifax.

This will be an informal, fun event and other Nova Scotia sights and sounds will create an authentic Maritime atmosphere. Dixieland music should generate a festive spirit and later, Terry Kelly, who has gained attention on national television, should soon rouse his audience's participation with his hand-clapping, toe-tapping music. Finnegan, billed as "Canada's Ambassadors of Good Cheer", will provide a generous sample of their special fare — music and comedy — to bring smiles and chuckles to all. Jim Flynn and Peter Stoney comprise this popular and highly entertaining act.

Morning seminars

Wednesday morning, August 27, Mrs. Vogan will introduce four different seminars for the spouses, ranging, she says, from the "informative and educational, to the frivolous."

Dr. Terrence Punch, a prominent maritime author and lecturer will lead a session on genealogy. Another seminar — "Investing



Downtown Halifax by night, across the harbor.



Cape Blomidon, one of the many scenic attractions in the Annapolis Valley, northwest of Halifax.

your money — where to begin" will be led by Suzanne Sheaves, an investment broker.

"Nutrition and Stress" will be presented by two nutrition counsellors, Pam Lynch and Susan Wright.

The fourth session "The Psychology of Care" will be led by Ian Smith, the owner of a Halifax hairdressing establishment.

Childrens program

To assure those who combine the Convention with a family vacation that it will be a rewarding and enjoyable occasion for all, a children's program guaranteed to capture the interest of the seven to 15-year-olds, has been organized.

The events include a sports day at a local modern sports facility, a tour of the city, with visits to the police and fire departments, and to Halifax's historic Citadel, a magic show and films that will appeal to the young audience.

Professional day care facilities will be available at the St. Joseph's Day Care establishment, a registered day care service in Halifax, close to the downtown area. Parents will be responsible for getting them to and from the day care centre.

Information about these services and programs will be provided when delegates register at the World Trade & Convention Centre.

All the hotels have advised that, if contacted in advance, they can arrange all the necessary baby-sitting services parents will require, while attending Convention events. In this respect, the advantage of early registration is obvious, to determine the hotel in which you are booked.

INCREASING SUPPORT FOR SCIENTIFIC PROGRAM

Organizers of the Scientific Program for CDA Convention '86, in Halifax, have been encouraged by the support offered by dental industry firms and from other commercial interests in Canada.

The list continues to grow, and the committee would like to acknowledge their support in the updated listing, below:

Oral B Laboratories
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Additional sponsors will be listed in the future editions of the Journal.



PRESIDENT'S COLUMN

Dr. Brad Holmes

GOVERNMENT RELATIONS

The recent interim board meeting in Ottawa was preceded by activities in which representatives of CDA took part. Several of these activities related to our government relations program. The first government relations enterprise took place on April 1, 1986.

Mr. A.J. Neilson, Dr. R.J. Markey and I attended a program called "Issues Ottawa", sponsored by the Niagara Institute and chaired by Mr. Bill Wilton of the Institute. We had opportunity to hear and later question various speakers.

Mr. Hyman Solomon, the Ottawa Bureau Chief for the Financial Post, spoke on the changing Ottawa environment and the implications for the balance of the Tory mandate.

David Kirkwood, the Deputy Minister of Health and Welfare Canada spoke on the social safety net — how safe is it and what changes can be expected. Stanley Hartt, Deputy Minister of Finance discussed the recent budget along with the process involved in putting it together, including key elements and trade-offs. Dick Martin, Executive Vice President of the Canadian Labour Congress talked about the forces which will affect labour in the 80's in light of the rapidly changing Canadian environment and high unemployment.

We also had the opportunity and enjoyment of having dinner with Gordon Fairweather, the Chief Commissioner for the Canadian Human Rights Commission. We found him to be a delightful gentleman and interesting speaker. He spoke on such matters as international obligations and domestic legislation, equality rights, affirmative action and trade union rights.

On April 2, 1986 I held "Call the President Day." Between the hours of 8:30 a.m. and 4:30 p.m. I received 18 calls. Contrary to my expectations, many of the calls were complimentary. CDA's visibility has improved markedly in the eyes of some of our members and we are helping the average dentist in many ways. Several callers had some suggestions about improving our performance and those views will be taken seriously and assessed.

On the evening of April 2, 1986 CDA hosted the second Dental Awareness Program reception. This reception was well attended by members of the various government departments including several Assistant Deputy Ministers. Several other professional organizations also had representation there. One of the highlights of the evening for me was an unsolicited comment by a gentleman well versed in the area of health promotion and prevention. He said our awareness program was the best prevention promotion he had ever seen and he was indeed envious. A strong tribute to our dental Awareness Program.

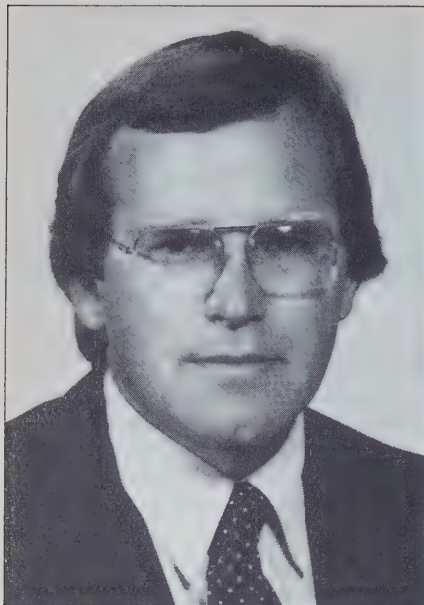
Thursday April 3rd was the day set aside for CDA to host the Specialty Sections Meeting. This meeting provides an opportunity for all of the specialties to discuss issues and present their views to each other and to CDA. All of the specialties were represented and the meeting was lively and informative for all concerned. It is my hope that CDA will grant formal council status to this group at our annual meeting in August. We are fortunate to have such dedication to dentistry by our specialists.

The CDA Government Relations Program sponsored a dinner that evening which was attended by many governors, Presidents and Chief Executive Officers. Mr. Mark Daniels, the Deputy Minister of Consumer and Corporate Affairs gave a very candid review of the Deputy Minister's responsibilities in government. His address covered many topics including the new lobby legislation. We all enjoyed Mark's forthright approach in fielding the many questions from the floor and we are grateful to him for his commitment to attend this function.

April 4th and 5th brought the CDA Interim Board meeting with a multitude of items for discussion and action. I believe our Board functions well, in no small part due to the quick wit and sharp tongue (used sparingly) of our chairman Dr. Nick Mancini. Nick's capabilities in handling board meetings are par excellence and we are indebted to Nick for his activities on our behalf.

Our luncheon speaker on Thursday was Dr. Peter Glynn, Assistant Deputy Minister of the Health Services and Promotion Branch of Health and Welfare Canada. Peter spoke on many issues related to Health Promotion and complimented CDA's Awareness Program. His offer of consultation and co-operation with his department will indeed help us to improve our activities in this area. Hopefully by building good relationships with government, CDA will be in a much more positive position to represent the profession.

The future of health is in prevention. Let's have CDA lead the way in a manner that will be an example for all other professions to follow.



Dr. Gary M. Foshay

DR. GARY M. FOSHAY

Scientific program chairman is man of academic distinction

Dr. Gary M. Foshay, Scientific Program Chairman for the Canadian Dental Association Convention in Halifax, is, because of his own outstanding record in scholarship, eminently qualified for the task.

A graduate of Dalhousie University in 1978, Dr. Foshay is presently Assistant Professor of Periodontics, Faculty of Dentistry, Dalhousie, and maintains a private specialty practice in periodontics in Halifax.

Mount Allison graduate

Following his graduation from Mount Allison University (Sackville, New Brunswick) with a BSc (First Class Honors) in 1974, he began studies in dentistry at Dalhousie University.

What followed was an era of impressive academic distinction.

In 1975-76, Dr. Foshay was awarded the Faculty of Dentistry Scholarship (for highest scholastic standing), the Charles Bell Memorial Prize (for highest average in all subjects) and the Dr. H.M. Eaton Memorial Prize (for the greatest proficiency in Radiology). In 1976-77, he received the Canadian Academy of Periodontology Prize (for the greatest proficiency in Periodontics) and was named representative from Dalhousie at the Dental Student Conference on Research — the Proctor and Gamble Company and the Council on Dental Research of the American Dental Association.

During the 1977-78 academic year, Dr. Foshay received the Dr. Frank Woodbury Memorial Prize (for the highest standing in Clinical Practice), the Dr. Frank Woodbury Memorial Prize (for second

highest average), the Dr. John W. Dobson Memorial Prize (for highest marks — Periodontics), the American Academy of Periodontology Prize (for outstanding student in Periodontics), the Canadian Society of Oral Surgeons (for highest standing in Oral Surgery) and the C.V. Mosby Book Prize (for highest marks in Oral Diagnosis).

Periodontics — Pennsylvania

Dr. Foshay became a lecturer in Periodontics and Restorative Dentistry at Dalhousie in 1978, and in 1980, began studies in the specialty of Periodontics at the University of Pennsylvania. He received his certificate in 1982.

He served as a Teaching Fellow, University of Pennsylvania School of Dental Medicine, 1981-82.

From 1982 to 1984, Dr. Foshay was course director in Undergraduate Occlusion at Dalhousie University. He was appointed Assistant Professor, Periodontics, at Dalhousie, in 1982 and in 1983 to the post of Clinical Director, Post Graduate Periodontics in which he continues to serve.

Professional organizations

Dr. Foshay is an active director of the Canadian Academy of Periodontology and is treasurer of that body. This year, he is also Scientific Program Chairman for the Academy's annual meeting, also being held in Halifax.

He is currently President of the Atlantic Society of Periodontology following service as Secretary-Treasurer, from 1982 to 1985.

To ensure that there are no idle moments, Dr. Foshay is also a member of the American Academy of Periodontology, the Society of Dental Specialists of Nova Scotia, the North American Periodontal Study Club, the Royal College of Dentists of Canada and the Nova Scotia Dental Association.

International presenter

Dr. Foshay has made many presentations and conducted courses not only throughout Nova Scotia, including continuing education courses at Dalhousie, but also in West Germany and the United States.

1987 CONVENTION UPDATE

L'Ordre des dentistes du Québec recently extended an invitation to the Canadian Dental Association to hold its 1987 annual Convention conjointly with the ODQ, at the Montréal Palais des Congrès.

The CDA has accepted this invitation and further details will be published in this Journal as they become available.

ON-LINE NETWORK AVAILABLE TO CANADIAN HEALTH PROFESSIONALS

InfoHealth, a new nation-wide computerized communication and information network is now available in Canada.

Operated by the Canadian Hospital Association, the network uses the technology of Telecom Canada's iNet 2000 service. The network will allow health care executives and health care professionals to communicate electronically with each other.

Essentially a customized version of Telecom Canada's iNet 2000, InfoHealth offers, in addition to the full service of iNet 2000, communication and information services specifically tailored to the health care field.

Special features of InfoHealth include: access on-line to most of the communication and health information services needed by health care individuals and organizations; standard rates regardless of the subscriber's location in Canada; easy access and easy use; services grouped to meet particular needs of particular subscribers.

Several categories of services are available through the network. Executive Services provides electronic messaging, bulletin boards, and the Official Airline Guide containing flight and hotel information from around the world. Association Services allows health care associations and federal and provincial departments of health to communicate with their members and offer on-line versions of newsletters or membership lists.

Professional Services allows national and provincial associations or licensing bodies for health care personnel to communicate electronically with their members and to offer their own services through the network.

InfoHealth subscribers can also gain access to numerous health care databases, such as MEDLARS, offered by the National Library of Medicine in Bethesda, Maryland. A service currently under development for the InfoHealth network will give subscribers access to medical reporting and a catalogue of InfoHealth publications.

To join InfoHealth, an individual subscriber or an organization wishing to subscribe, pays a one-time \$250 sign-up fee. This fee covers the costs of issuing an ID number and training and manuals. Usage is charged thereafter at a rate of \$15 per hour. Subscribers receive a monthly invoice for the services from the Canadian Hospital Association.

To sign on to the service, or for more information, contact either the Canadian Hospital Association, 17 York St. Suite 100, Ottawa, Ontario K1N 9J6, 613-238-8005 or contact a local Telecom Canada member company.

Grieve Memorial Lecture DR. FRANK E. SHAMY TO SPEAK ON ORTHODONTIC PRIORITIES

The presenter of the prestigious Grieve Memorial Lecture at the CDA Convention in Halifax, at 10 a.m. on Monday, August 25, will be one of Canada's most prominent orthodontists, Frank E. Shamy, BSc, DDS, MSc. of Montréal.

The title of his lecture will be: "Vertical Dimension: First Priority in Orthodontic Diagnosis and Treatment Planning."

Practises in Montréal

Dr. Shamy has been in the exclusive practice of orthodontics in Montréal since 1964. After receiving his BSc and DDS degrees from McGill University in 1954 and 1956, respectively, and after completing six years of general practice, he returned to graduate orthodontic school and received an MSc degree from the Université de Montréal, in 1964.

He has lectured widely on the subject of occlusion and mandibular function. The temporomandibular joint has been his special interest for some 20 years, and the subject of his MSc thesis and research was: "TMJ Occlusal Condyle Position Changes", completed in 1964.

Dr. Shamy held the position of "Lecturer on Occlusion" at McGill University, Faculty of Dentistry, from 1964 to 1970. He also served on the McGill teaching staff in the Department of Prosthetic Dentistry, from 1957 to 1975.

He is a member of the Canadian, Québec,

American and European societies of orthodontists. He was President of the Canadian Association of Orthodontists in 1983-84, President of the Québec Association of Orthodontists in 1975-76, and President of the Canadian Foundation for the Advancement of Orthodontics, in 1984-85.

ATTENTION FDI DELEGATES

In recent meetings with External Affairs spokespersons, the Canadian Dental Association was told that the political changeover in the Philippines, will pose no threat to foreign visitors. Accordingly, Canadian delegates planning to attend the Federation Dentaire International meeting in Manila, November 9-15, 1986 are encouraged to continue with their plans.

As a precautionary measure, however, Canadian delegates are asked to register with the Canadian Dental Association headquarters in Ottawa, and with the Canadian consulate upon arrival in Manila.

Any Canadian delegates to the FDI meeting are asked to provide the Canadian Dental Association, Executive Director's Office, at 1815 Alta Vista Dr., Ottawa, Ontario, K1G 3Y6, with names of delegates attending the meeting and name of the hotel in which the delegate is staying. Please provide this information to the CDA by telephoning 613-523-1770 by August 31, 1986.

THE NATIONAL DENTAL EXAMINING BOARD OF CANADA

This is the first in a series of Journal news columns on various groups and specialty societies affiliated with the Canadian Dental Association. In the next four editions, a series on the National Dental Examining Board of Canada will be presented to our readers.

Introduction and Background

Dentists practising in Canada today are aware that The National Dental Examining Board (NDEB or The Board) is one of many organizations making up the dental profession's complex organizational structure. It is the organization from which a dentist must obtain certification if he/she hopes to possess credentials which will provide eligibility for practice privileges in all Canadian provinces.

In this, and three succeeding short articles to appear in subsequent issues of The Journal, the NDEB's story will be briefly

reviewed from its early beginnings to the multi-faceted complex role it now plays in helping to establish and monitor the standards of dental practice offered to the Canadian public.

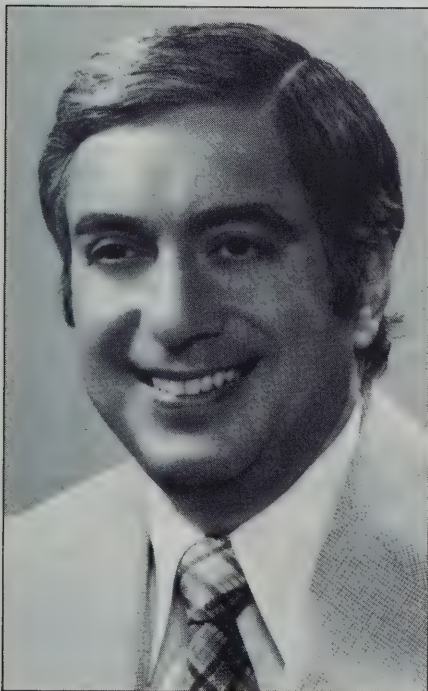
In 1906 under the auspices of The Canadian Dental Association (CDA) the Dominion Dental Council was formed to conduct national written examinations, the successful completion of which would earn the candidate a Dominion Dental Council certificate. The National Certificate could then be presented to the provincial licensing authorities as evidence of the candidate's ability to meet a basic national standard of competence. Some provincial dental licensing authorities were prepared to grant licenses to practice on the basis of the certificate, however, others chose to accept the certificate as an academic base only and required the candidate to pass additional provincial practical tests.

The Dominion Dental Council proved to be rather ineffective. A name change to The Dental Council of Canada in 1950 along with attempts to improve the efficiency of the examination mechanism still failed to attract strong support from the provincial licensing authorities. This was in spite of the fact that the licensing authorities agreed with the general concept. They had indicated a desire to be free of the need for provincial licensing examinations, providing that a strong competent national examination system, which they could support, could be introduced.

The following year (1951) the CDA encouraged the ten provincial licensing authorities to meet in an attempt to develop a satisfactory plan for a National Examining Board. Its purpose was to provide a facility by which members of the profession could become eligible, on a national basis, to apply for practice privileges in the province of their choice. This meeting resulted in the incorporation of The National Dental Examining Board of Canada in 1952 by an Act of Parliament. The Act was supported at the time by all ten provincial licensing authorities and by the CDA. This support continues today.

According to the original Act, the NDEB is responsible for the establishment of qualifying conditions for a national standard of dental competence for general practitioners; for establishing and maintaining an examination facility to test for this national standard of dental competence; and for issuing National Certificates to dentists who successfully meet this national standard.

The basic structure of The NDEB comprises twelve members, one from each of the ten provincial licensing authorities and two from the Council on Education and



Dr. Frank E. Shamy

Accreditation of the CDA. The Executive Committee of the Board, consisting of the president, past-president, vice-president and two other members, meets two or three times a year. The full Board meets annually.

The Board maintains an office at 100 Bronson Avenue in Ottawa, with a Registrar, an Administrative Officer and three other full time staff members.

The NDEB is a non-profit organization supported financially by fees charged to candidates for examination and certification.

At the present time there are approximately 10,000 dentists who hold the Board's National Certificate.

EXECUTIVE DIRECTOR'S REPORT ON THE 1986 INTERIM BOARD OF GOVERNORS MEETING

Highlights and Principal Decisions

The following is a report highlighting events of the Interim Meeting of the CDA Board of Governors, held in Ottawa on April 4-5, 1986.

Audited Financial Statements

The Board reviewed and approved the audited financial statements for the Canadian Dental Association and the Canadian Dental Research Foundation, prepared by the firm of McCay, Duff & Company. The balance sheet and statement of expenses are published in this issue of the Journal.

Government Relations Committee

The first report of the Government Relations Committee was presented to the Board, supplemented by a presentation by the CDA Executive Director on government relations.

The written report highlighted the following:

- synopsis of government relations activity plan outline;
- the structure, duties and responsibilities, and goals and objectives of the Committee;
- a review of CDA problems perceived by publics, based on interviews conducted for CDA by the Niagara Institute;
- an action plan for 1986;
- a summary of on-going activities; and,
- a report on a communication network.

Government relations activities during the week of and associated with the 1986 Interim Board included a press conference and reception for government and inter-association contacts, held on April 2, highlighting Dental Awareness and Dental Health Month. CDA Governors, and Presidents and Chief Executive Officers of

Corporate Members, attended a dinner featuring a presentation on proposed Government Lobbying Legislation by Mr. Mark Daniels, Deputy Minister of Consumer and Corporate Affairs.

Taxation

In his report to the Board, the Chairman of the Taxation Committee, Dr. Robert N. Hicks of West Vancouver, reported on the success achieved to date on the removal of federal sales tax from most dental materials. Specific information on dental materials which are now sales tax exempt, was published in the April, 1986 issue of the Journal. The Committee continues to dialogue with Revenue Canada and the Department of Finance on exemptions for orthodontic materials and appliances, dental instruments, and X-Ray equipment and supplies.

The definition of Personal Service Corporations continues to be of concern to the Committee, and a brief has been forwarded to Revenue Canada outlining the Associa-

tion's position on this item. Any change to the current definition will be immediately reported to the membership.

Roles and Responsibilities Committee

The Board approved revised role schedules for the President, President-Elect, Past-President, Chairman of the Board, Executive Council, Management Committee and Executive Director. The Council on Constitution & By-Laws was directed to proceed with the required amendments to current By-Laws.

Academy of General Dentistry Certifying Board

The Board reviewed a draft policy paper on "A Certifying Board for General Dentistry", which outlines the CDA's position on the establishment of the Certifying Board. Governors deferred consideration of the position paper to the August Annual

1985 AUDITED FINANCIAL REPORT

The audited financial statements of the Canadian Dental Association were adopted at the Interim Meeting of the CDA Board of Governors. The Balance Sheet and Statement of Revenue and Expenses for the year ended December 31, 1985 have been extracted from the Auditors' Report and are presented for your review. Copies of the complete audited statements as prepared by McCay, Duff and Company may be obtained from the CDA Resource Centre.

CANADIAN DENTAL ASSOCIATION BALANCE SHEET AS AT DECEMBER 31, 1985

	ASSETS	
	1985	1984
CURRENT		
Cash	\$ 778,036	\$ 826,513
Cash — Building		
Contingency		
Fund	25,445	20,883
Deposit certificate	750,000	750,000
Accounts receivable	150,769	74,710
Inventory (note 1)	49,457	54,706
Prepaid expenses	64,006	50,125
	1,817,713	1,776,937
FIXED		
(notes 1 and 2)	1,379,134	1,413,977
	3,196,847	3,190,914

	TRUST ASSETS	
Cash	52,703	58,313
Accounts receivable	1,276	—
Prepaid expenses	5,300	3,852
Library books and furniture (at nominal value)	1	1
	59,280	62,166
	\$3,256,127	\$3,253,080

	LIABILITIES	
CURRENT		
Accounts payable	\$ 147,095	\$ 129,440
Deferred revenue	696,640	506,018
Current portion of long term debt	27,150	18,000
	870,885	653,458
LONG-TERM DEBT (note 3)	495,487	386,387
	1,366,372	1,039,845

	EQUITY	
SURPLUS	973,978	1,141,479
EQUITY IN FIXED ASSETS (note 4)	856,497	1,009,590
	1,830,475	2,151,069
	3,196,847	3,190,914

	TRUST EQUITY	
Library Trust Fund	51,533	54,964
The Grieve Memorial Lectureship Fund	7,747	7,202
	59,280	62,166
	\$3,256,127	\$3,253,080

Meeting, in order that representatives of the AGD Certifying Board be given the opportunity to present their views to the CDA.

Restructuring CDSPI Board of Directors

Motions outlining CDA's recommendations on the restructuring of the CDSPI Board of Directors were approved by the Board, indicating changes to the current representation from the provinces of Saskatchewan and Manitoba, and the Atlantic Provinces.

A further recommendation on the structure of the CDSPI Management Committee was also adopted.

The CDSPI Board of Directors will be considering these recommendations at an upcoming meeting.

CDA Journal

In presenting his report to the Board, Dr. John Hardie, Chairman of the Editorial Board, expressed concern over the current

advertising arrangement between the CDA and the CDSPI, and its potentially negative impact on the financial stability of the Journal. It was the Board's decision that this arrangement continue pending a thorough review by CDA Management Committee.

The Editorial Board will present recommendations to a future meeting of the Board, on a change to the present circulation of the Journal.

Membership

The Board was informed that overall membership figures to date for Ontario and Quebec are ahead of 1985 figures. Statistics for Quebec show an increase of some 200 members, over the same date in 1985.

The Committee will be initiating a monthly column in the Journal "Did You Know", which will highlight specific membership benefits. The first column is scheduled for the May issue of the Journal.

The Board approved a recommendation of the Membership Committee, redefining the

Student Member category to include eligibility of Canadian citizens who are students in CDA recognized Faculties of Dentistry outside Canada.

Third Party Dental Plans Committee

On recommendation of the Third Party Dental Plans Committee, Governors approved a revision to the CDA Standard Dental Claim Form.

The Board approved amendments to the CDA's Uniform System of Codes and List of Services, and amended copies of this document are available through CDA.

A Sub-Committee on Alternate Delivery — Payment Systems has been established within the Third Party Dental Plans Committee. Terms of reference for this new Sub-Committee include the development of expertise on alternate delivery and payment systems developing in North America, and the development of educational material for articles on these alternatives for circulation to the profession.

CDA Conventions

The Board was informed that following the resignation of Dr. J.C. Giguère, 1987 Convention Chairman, and correspondence between the CDA and the QDSA on the advisability of holding the 1987 Convention in Quebec City, the CDA has cancelled the Quebec City Convention. Two alternatives are being considered — a conjoint convention with the Ontario Dental Association or a conjoint convention with l'Ordre des dentistes du Québec.

Dr. Ian Vogan presented an overview of the program for the 1986 Halifax Convention, urging promotion and support of Governors.

CDA Manpower Symposium — Professional Resource Utilization Committee

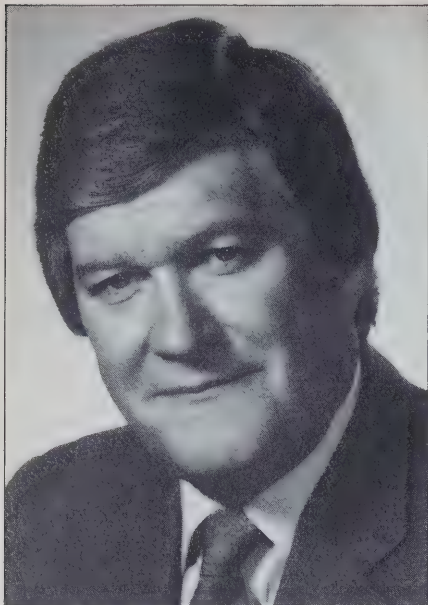
Following direction from the Manpower Symposium held by the CDA last October, the CDA established a national committee — the Professional Resource Utilization Committee — to study the present resource situation, and to present recommendations for solution to the Board of Governors. The Committee comprises representatives of the CDA, Health and Welfare Canada, the CDHA, the ACFD, the lay public, and the membership at large. Recommendations of the Committee will be considered at future meetings of the Board.

Dental Awareness Program

The Council on Information Services presented an update to the Board on the Dental Awareness Program. CDA has obtained \$900,000 in corporate sponsorship over the initial two years of the pro-

CANADIAN DENTAL ASSOCIATION STATEMENT OF REVENUE AND EXPENSES FOR THE YEAR ENDED DECEMBER 31, 1985

	1985		1984
	Budget	Actual	Actual
REVENUE			
Fees (page 9)	\$2,194,425	\$2,232,283	\$2,190,815
Grants	30,000	22,515	29,264
Journal (page 10)	426,000	402,492	405,013
Publications	70,000	78,728	70,990
Interest	85,000	139,963	156,543
Rental	178,734	173,539	133,487
Other (page 9)	49,000	140,089	30,052
Convention	—	333,351	—
	3,033,159	3,522,960	3,016,164
EXPENSES			
Honoraria and per diem	265,044	290,061	189,406
Salaries and benefits	661,559	675,981	610,354
General and administration (page 11)	305,050	313,664	300,199
Convention	—	386,109	—
Conferences	22,500	11,154	26,995
Journal (page 10)	554,701	542,710	505,928
Other publications (page 11)	105,330	92,955	88,118
Travel and meetings (page 12)	472,854	491,394	391,776
Unbudgeted projects (page 12)	50,000	64,314	38,036
Property management	282,929	253,427	241,266
Dental Awareness and DHM	305,000	379,835	146,966
Accreditation surveys	50,000	58,036	32,814
Dental Aptitude Program	79,700	83,972	80,524
Membership campaign	35,515	35,309	27,634
Student affairs	33,500	31,413	17,394
Library	14,900	19,355	10,346
F.D.I. administration	20,000	29,679	13,889
Consulting fees	57,500	63,686	37,756
Grants and sponsorships	12,000	11,500	5,394
	3,328,082	3,834,554	2,764,795
EXCESS OF REVENUE OVER EXPENSES			
(EXPENSES OVER REVENUE) FOR THE YEAR	(\$ 294,923)	(\$ 311,594)	\$ 251,369



Mr. A. Jardine Neilson



Mr. Peter Glynn Assistant Deputy Minister, Health Services and Promotion, Health and Welfare Canada was the luncheon speaker at the Interim Board of Governor's meeting April 4, 1986. He made some very positive statements regarding CDA's Dental Awareness Program and praised the Association for taking the initiative in this education/promotion area.



Mr. Glynn, (right) was presented with a "Good For Life" T-Shirt by CDA President, Dr. Brad Holmes (left).

gram. Negotiations are underway on other projects, which could result in a further \$500,000 in DAP sponsorship in the current year.

Following a thorough review of all financial aspects, the Board approved an ongoing commitment to the DAP. Budgetary proposals will be brought to the Annual Board Meeting for approval.

Policy Advisory Board — National School of Dental Therapy

The Board was informed that the following representatives have been named to the Policy Advisory Board — National School of Dental Therapy: Dr. M.L. Simoneau — Melfort, Saskatchewan, representing the College of Dental Surgeons of Saskatchewan; Dr. P. Rieben Jr. — Prince Albert, Saskatchewan, representing the Prince Albert and District Dental Society; and, Dr. Bradley Holmes representing the CDA.

Independent Review of Dental Services

A report was provided to the Board on CDA's involvement with Medical Services Branch, on the establishment of a Dental Services Review Team which will conduct an independent review of dental services delivered to Canada's Indian and Inuit populations.

It is anticipated that once commenced, the review will take approximately three (3) months to complete, plus an additional month for preparation of the report. The CDA will receive a copy of the full report.

Dr. William Bedford, Senior Consultant — Dentistry, Health and Welfare Canada, has submitted a proposal to his department on the provision of dental services to native peoples by a non-governmental body. In order that Dr. Bedford not be considered to be in a position of potential or actual conflict of interest, he has been assigned to duties in the Health Services and Promotion Branch. Dr. Bedford's proposal will be considered by the Dental Services Review Team.

Legal Opinions — National School of Dental Therapy, and Practice of Dental Therapy in Conne River, Newfoundland

Governors were informed that concern about the training for, and practice of dental therapy under the auspices of Health and Welfare Canada, prompted the CDA to seek legal opinions on the National School of Dental Therapy and the practice of dental therapy in Conne River, Newfoundland. Two opinions were received; one from Mr. Gordon Henderson of the law firm Gowling and Henderson, and a second from

Mr. J.J. Robinette of the law firm McCarthy & McCarthy.

Discussion has been initiated with officials of Medical Services Branch, Health and Welfare Canada; these discussions continue.

FDI 1993

An update on activities relating to CDA's application to host the FDI Congress in Vancouver in 1993 was provided to the Board.

As required by FDI Congress protocol, an official site visit to Vancouver was scheduled for the week of February 24, 1986. An Executive meeting was also held at that time among FDI, CDA, and CDS-BC officials. It is anticipated that the CDA invitation will be extended in the near future, for consideration at the FDI Executive Meeting scheduled for May 15, 1986, and confirmation at the FDI World Council, coincident with its 1986 Annual Meeting.

Advisory Committee on Conventions

A report was presented to the Board by the Advisory Committee on Conventions, established to discuss future CDA conventions in light of the 1985 CDA Convention Ottawa experience, which resulted in a budget deficit.

Based on its review of the Advisory Committee's findings, the Executive Council authorized the establishment of an Ad Hoc Committee on Conventions, which will evaluate the Advisory Committee's report. It will then make recommendations to the Executive Council, which will include a suggested protocol for future CDA Conventions.

Dr. Frederic Gladstone Gollop — Bequest to the CDA

The Board was informed of a \$66,000 bequest to the CDA by Dr. Frederic G. Gollop, a general dentist who practiced in Ottawa for many years.

Details on Dr. Gollop were contained in an article published in the May Journal.

Council on Dental Specialties

The Roles and Responsibilities Committee will be considering a request from the Annual Meeting of Specialty Sections, that CDA establish a Council on Dental Specialties.

Recommendations on terms of reference and approval for this Council will be brought to a future meeting of the Board.

Dental Materials and Devices

Invitations to submit applications for the 1987 Canadian Dental Research Foundation Award have been forwarded to approximately 100 candidates, along with informa-

tion on the new terms of reference for the CDRF Award.

Following representations by the CDA and the dental industry to Health Protection Branch, Health and Welfare Canada, Information Letter No. 696 was issued, excluding restorative dental materials from dental implant legislation. The Minister of Health and Welfare has confirmed that new regulations are not contemplated, and that CDA would be asked for input should further regulations be developed.

Statement Re Unproven Treatment Methods

The Council on Ethics presented a CDA Statement on Unproven Treatment Methods for Board approval. The Board directed that a legal opinion be obtained on this policy statement, prior to further consideration.

Health Care

On recommendation of the Council on Health Care, the Board approved CDA endorsement of the use of Heptavax-B as a preventive measure against Hepatitis-B, for all dental personnel who are in contact with patients' blood, saliva or body fluids.

The principle of denture marking for identification purposes received Board approval. The Council on Health Care will investigate considerations for the standardization of information and systems for this purpose.

Recommendations for the dental treatment of AIDS Patients, CDA Guidelines on Conscious Sedation, a CDA Policy on Sugar in Medications, and a CDA Policy on Smoking will be put forth by the Council on Health Care at a future meeting of the Board.

Canada Health Act

On recommendation of the Council on Hospital and Institutional Services, the Board approved a Summary of CDA Policy on the Canada Health Act.

The Canadian Dental Association believes that the Canada Health Act discriminates against health professionals co-operating in the provision of government-insured health services. It removes their freedom to charge independently established fees, it financially penalizes provinces, and forces them to introduce their own legislation, which establishes fines for health professionals who collect fees above those established by medicare for insured services. The Council on Hospital and Institutional Dental Services is currently exploring means to assist provincial dental associations in dealing with such legislation and resultant problems.

Insurance Plan for Dentists' Staff

On recommendation of the Council on Insurance and Investment, the Board approved



DID YOU KNOW?

by Dr. Ralph Crawford
Chairman, Membership Committee

Did You Know? It took 2¹/₂ years of continuous endeavor by the C.D.A. Taxation Committee before Revenue Canada in 1979 amended regulations to permit the self-employed to make reasonable deductions for continuing education expenses. Before 1979, only the tuition costs were deductible. C.D.A.'s efforts in this area were beneficial to *all* dentists; (and *all* self employed professionals in Canada).

Did You Know? The C.D.A. Board of Governors in September, 1983 approved the formation of a Committee on Salaried Dentists. The representatives are from federal and provincial salaried positions, A.C.F.D., and a current member of the Board of Governors. The present chairman is Brigadier General J.N. Wright.

This particular committee provides a forum for discussion of common interests and concerns of salaried dentists in Canada. It meets once a year. Truly, another example where C.D.A. speaks on the behalf of *all* dentists.

Did You Know? C.D.A. publishes and distributes for dental office hand-outs, in excess of half a million pamphlets a year. The pamphlets, available in both official languages, cover a wide range of dental information that is of interest to the general public. Such topics as T.M.J., Oral Surgery, X-Rays, Bottle Caries, Endo, Perio, Dentures, Fluoride, Prevention, Insurance, Careers, (and others) are discussed in easy-to-understand language.

The responsibility of pamphlet publication comes under the Council of Information Services, chaired by Dr. Yosh Kamachi of North Bay. The CDA Information Officer is the person to contact for further information.

Did You Know Historically? The April edition of the 1903 Dominion Dental Journal published the first treasurer's report of the new Canadian Dental Association, formed the year before. The report, one short page, was presented by C.D.A.'s first Treasurer, Dr. Robert L. Watson of Montreal.

Total receipts were \$1,192.00; disbursements were \$1,215.73, leaving expenses over income at \$23.72. A notation at the bottom of the report indicated that the deficit of \$23.72 was paid by the Quebec Dental Association. (Now if C.D.A. could only convince the current Quebec Dental Association to pick up the 1985 deficit we are sure C.D.A. Management Committee would be eternally grateful — or for at least another 83 years!)

a group insurance package for dentists' staff effective July 1, 1986. The plan provides coverage for Basic Life Insurance, Long Term Disability and Accidental Death and Dismemberment.

CDIP Plan Comparisons

The Council on Insurance and Investment continues to assess the advantages which accrue to dentists who participate in the CDIP. The Board was informed that a recent report prepared by Towers, Perrin, Forster and Crosby shows that a dentist who participates in the Basic Life Program will pay only 60% of the premium that he would have to pay, if he obtained coverage from any of the companies surveyed.

W.R. THOMPSON HONORARY DENTAL SURGEON

Brigadier-General (Retired) W.R. Thompson, a past-President of the Canadian Dental Association was recently appointed as Honorary Dental Surgeon to Her Majesty Queen Elizabeth II.

Dr. Thompson who is presently Colonel Commandant of the Canadian Forces Dental Services, was President of the CDA in 1982. Born in Campbellford, Ontario, he served as Director General of Canadian Forces Dental Services from 1976, until his retirement in 1982. He served as a dental assistant and navigator in the Royal Canadian Air Force during World War II and entered the University of Toronto's Faculty of Dentistry immediately following the end of the War. He graduated from the Faculty in 1949.

Dr. Thompson is a certified specialist in oral and maxillofacial surgery, and an



Brig-Gen. (Ret.) W.R. Thompson

Honorary Fellow of the Royal College of Dentists of Canada. He is also a Fellow of the International College of Dentists and was awarded the Pierre Fauchard medal by the National Order of Dental Surgeons of France in 1979, for his contributions to international dentistry.

Dr. Thompson also currently serves on the General Council of the Federation Dentaire Internationale.

RSP INVESTMENTS AND TAX CHANGE

**Peter B. Dennett, Director of
Retirement Services, CDSPI**

Remember when contributing to a Registered Retirement Savings Plan was a rather straightforward process? Your choice was Equities, Bonds, Term Deposits, or Variable Rate Account. No matter what your choice, earnings on any of the investment options within the RSP were sheltered from tax, while the same investments outside the RSP attracted tax, whether it be on interest, dividends or on the capital gain.

However, measures introduced in the May 23, 1985 Budget and more recently, have made deciding whether to contribute to a RSP, considerably more complicated. The main component that makes decisions more complex is the \$500,000 lifetime capital gains exemption that took effect in 1985 and will be phased in over the next five

years. As a result, there is no real difference between realizing capital gains inside or outside a RSP, as long as you have not exhausted your capital gains exemption. This tax change does emphasize that you should always hold interest bearing securities in an RSP rather than outside. Does it mean you should not invest in Equities in an RSP? No.

Historic returns tell us that equity investment over the long term provide higher returns on your money compared to investments in Bonds and Mortgages etc. If you keep in mind that the overall objective of your RSP is to accumulate a large sum of money to provide a retirement income, then it is reasonable to invest at least a portion of your RSP dollars in securities that will produce the greatest overall return on your investment over the long term. Those securities are equity investments.

When you view your RSP and contributions as an investment, and consider the overall objective of the plan, you will be inclined to be more conservative in your RSP strategy then you might be outside the plan. This only makes sense, since you should not be gambling with retirement income.

The much larger contribution limits for individuals that use RSP only for their retirement income, provide the opportunity for professionals to accumulate pensions equivalent to executives of large corporations. The contribution limits over the next few years are:

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	April 25, 1986	March 31, 1986
Fixed Income Fund	51.91729	51.44161
Common Stock Fund	119.99979	114.86635
Money Market Fund	34.56153	34.24799
Balanced Fund	22.01437	21.61012

Interest rates:

Guaranteed Fund

Term	April 25, 1986	March 31, 1986
1 yr	9.05%	10.0%
2 yr	9.30%	10.0%
3 yr	9.55%	10.10%
4 yr	9.55%	10.0%
5 yr	9.55%	10.25%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

April 25, 1986	March 31, 1986
\$60,329,403	\$57,516,811

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:

Western and Atlantic Canada and Ontario Area Code 807 only	1-800-268-5418
Quebec and Ontario, (except Area Code 807)	1-800-268-3411
Metro Toronto Area	497-7117

Year	Maximum Contributions	
	Percent of Earned Income	Dollars
1986	20%	\$ 7,500
1987	18%	9,500
1988	18%	11,500
1989	18%	13,500
1990	18%	15,500

After 1990 the maximum limit will be indexed according to increases in the Average Industrial Wage. So contributing the maximum each year can certainly build your RSP to a considerably large nest egg.

Finding the money to make the maximum contribution each year may be somewhat of a problem. During our careers it is not unusual to have some years where expenses

are considerably higher than normal such as educating the children, buying that condominium in the warmer climate or perhaps even paying for weddings. Such expenses sometimes do not allow you to put the maximum RSP contribution in your plan. However, the change in legislation, beginning with the contributions made in the 1987 tax year, will permit tax payers to carry forward contributions to a RSP for up to seven years. For example, if in 1987 you can only put \$5,000 in your RSP, instead of the maximum \$9,500, in the years following you could put the maximum in each year and eventually, before the seven year term is up, deposit the \$4,000 that you missed contributing in 1987.

The larger contribution limits mean a larger accumulation of dollars in RSPs. Larger amounts of money means that you must be prepared to give considerably more time to utilizing RSP investment strategies to maximize the overall returns.

As I said in the beginning, the changes make investing inside and outside an RSP more complicated. For RSP investments, CDSPI offers the CDA RSP which has a proven track record of above average performance. With its five investment options it provides you with a thoroughly diversified investment program with minimum cost. The CDA RSP has been designed for dentists by dentists. For further information call or write CDSPI.

AD LIB

MOUTHWASH

by Cuspid

Bad breath — especially under its more ominous rubric of halitosis — although arguably more hazardous to those exposed to it from others than to those who have it themselves, has been made by television in recent decades into a sort of grim social plague. If one observes the TV commercials, one sees that halitosis wipes out social lives and sends careers into a tailspin.

One solution, we are led to believe, is mouthwash. And North Americans spend millions of dollars a year on the stuff.

But does mouthwash work? Or is it really hogwash?

A study in the *British Dental Journal* (BDJ) used three different types of lab tests to assess the effects of nine modern commercial mouthwashes in inhibiting growth of oral microorganisms. The *BDJ* found wide variations in effectiveness . . . although all the products inhibited microbial growth to some extent.

However, the *BDJ* seems to think that it isn't so much *what* is used — but *how* and for what purpose? For instance, the authors of the study warn that "misguided use for (bad breath) can conceal underlying conditions of oral disease or serious neglect, and the temporary relief afforded by the mouthwashes can lead to the avoidance of necessary therapeutic and preventive oral health care". The authors further warn that antiseptics in mouthwashes remain in the mouth for too short a time to have much effect

unless used frequently over a long period and their effect is quite likely to be chemical irritation and supra infection, rather than anything beneficial. Finally, they applaud the new mouthwashes that offer the tooth protective benefits of fluoride, as well as oral hygiene confidence.

With about 250 million bottles sold a year, Warner-Lambert's Listerine is the biggest selling mouthwash. In 1879, in a small laboratory in Missouri, Dr. Joseph Lawrence evolved the formula of what today is Listerine antiseptic. He went to London to discuss the new antiseptic with Lord Lister and named it in his honour. Lister, of course, had earlier proved that a carbolic acid solution could control surgical infections . . . but *his* antiseptic, while very effective, often harmed healthy tissues.

Since the most frequent cause of bad breath is the putrefaction process carried out by oral microorganisms in stagnating saliva, residual food particles and plaque coating the teeth and oral mucosa, Listerine has made much of its claim that the mouthwash "kills germs by millions on contact". Its arch rival, Scope, manufactured by Procter & Gamble, charges in its ads that Listerine causes "medicine breath".

Since many of the mouthwashes contain as much as 25 per cent alcohol, it's possible for their users to be sweet of breath — but not know where they are. This is called non beverage alcohol (NBA) use, and mouthwash, along with aftershave lotion and alcohol-based fuels is a favourite NBA. Whether due to the

power of advertising, or to actual alcohol content, Listerine and Scope are the preferred mouthwash NBAs of alcoholics. There have been reports of ethanol-induced hypoglycemia, other symptoms — and at least one death — among children who have swallowed large amounts of mouthwash.

At Tel Aviv University, scientists are developing a new oil and water mouthwash that promises to work more effectively in fighting halitosis. According to the *Tel Aviv University News*, the idea for the oil/water mix grew out of extensive research on adherence of bacteria to oil. "The fact that bacteria stick to oil means that they are to a certain extent water repellent", says Dr. Mel Rosenberg of the university's laboratory of oral microbiology. Adds Rosenberg: "The finding that most oral bacteria adhere with high affinity to oil droplets led to further research, which demonstrated that oils can bind and remove oral bacteria following oral rinsing". In clinical trials, the ability of certain oils to bind and remove bacteria and oral debris from the mouth was compared with that of commercial mouthwashes. Results show that the oil/water mixtures were much more effective.

So, if mouthwash isn't used to mask serious underlying oral disease, inadvertently swallowed in large amounts by children or ingested by alcoholics for a quick high . . . it probably can be recommended with confidence. Whether its use will perk up flagging careers or social lives still remains to be studied.

DENTAL AWARENESS RECEPTION SUCCESSFUL

On April 2, 1986 at the Westin Hotel in Ottawa, the Canadian Dental Association held a gala reception to launch Dental Health Month for 1986. Attended by distinguished guests from government, industry and the health care fields, the reception marked the second year of CDA's Dental Awareness Program. The photos show some of those in attendance.



Dr. Brad Holmes (L) CDA President and Jardine Neilson (R) CDA's Executive Director chat with the Honourable Mr. Justice Francis C. Muldoon, of the Supreme Court of Canada (centre)



Robert Giroux, Deputy Minister Customs and Excise Canada, talks to Rick Young of Manifest Communications (Left).



Jim Mintz, (centre) Chief Communications and Marketing Unit, Program Resources Division, Health Promotion, Health and Welfare Canada, is shown with Dr. Yosh Kamachi, Chairman, Council on Information Services (left) and Lise George, then Information Officer of CDA (back to camera).



CDA's Executive Assistant, Sandra Deziel is shown with Mr. Harold Hamilton, Manager, Professional Services and Patient Care Products, Procter and Gamble Inc.



Dr. Brad Holmes, CDA's President is shown with Dr. Fred Weinstein, President of the Canadian Academy of Endodontics.



Dr. Holmes spoke to those in attendance about the highlights of the Dental Awareness Campaign for April and for the remainder of the year. He is shown holding the Dental Health supplement.

1986

CDA NATIONAL CONVENTION

AUGUST 24-27

HALIFAX, NOVA SCOTIA

REGISTRATION FORM

Name: Miss/Mrs/Ms _____
Dr/Mr _____ (please print for name tags)

Address: _____

City _____ Prov _____ Postal Code _____

Telephone No.: _____

Name of Spouse, if registered: _____

Name and Age of Children, if registered (see below)

Name _____ Date of Birth _____

CDA PRE-CONVENTION SOCIAL EVENT Totals
SATURDAY, AUGUST 23, 1986
Harbour Sail: Hosted by local area Dentist/Sailors
Limited registration

\$20.00 per person _____

CONVENTION REGISTRATION

AUGUST 24-27, 1986

NOTE: Early registration will help in securing the hotel reservation of your choice. It can also mean savings in air fare, so make your plans early.

Please complete appropriate category

- ☐ **DENTIST:** General Practitioner _____
Specialist _____ (Specialty Group)
- ☐ CDA MEMBER/Foreign Dentist to June 15 after June 15
\$325.00 \$375.00 _____
- ☐ Non-Member \$375.00 \$425.00 _____

*Includes access to scientific sessions and exhibits, opening breakfast, two lunches, Sunday evening registration party and Tuesday evening Lobster Bash, daily exercise program - aerobics/running.

☐ **DENTAL SPOUSE** \$140.00 (each) _____

*Includes access to scientific sessions and exhibits, Sunday evening registration party, Monday Fashion Show and Lunch, Tuesday Tour, and Tuesday evening Lobster Bash, Halifax walking tour, Wednesday morning Seminars, daily exercise program - aerobics/running seminars.

Indicate Tour Preference: South Shore _____
Annapolis Valley _____

☐ **CHILDREN** \$60.00 (Each) _____

Ages 7-15 inclusive

Deadline Date: June 15 - Limited registration

Includes a sports day, Citadel tour and lunch, double decker bus tour of Halifax, magic show, films.

☐ HYGIENIST	to June 15	after June 15
☐ Full registration		
☐ CDHA Member	\$125.00	\$150.00
☐ Non-Member	\$250.00	\$300.00

*Includes access to scientific sessions and exhibits, daily aerobics, Sunday Harbour Cruise (pre-registrants only), Sunday registration party, Monday opening breakfast, Monday CDHA President's luncheon and Citadel Hill candlelight tour, Tuesday Lobster Bash, Wednesday brunch and learn.

☐ Daily Registration	to June 15	after June 15
☐ CDHA Member	\$ 55.00	\$ 65.00
☐ Non-Member	\$110.00	\$130.00

Day(s) required _____

*Includes that day's scientific sessions and exhibits only.

☐ **CDHA SPOUSE/GUEST** \$60.00 _____

*Includes access to scientific sessions and exhibits, Sunday Harbour Cruise (pre-registration only), Sunday registration party, Monday CDHA luncheon and Monday evening "Candlelight Tour of the Citadel".

☐ DENTAL ASSISTANT/OFFICE PERSONNEL		
☐ Full Registration	to June 15	after June 15
☐ CDAA Member	\$125.00	\$145.00
☐ Non-Member	\$155.00	\$175.00

*Includes access to scientific sessions and exhibits, daily aerobics, Sunday registration party, Monday President's Luncheon, Tuesday Fashion Show and Luncheon, Wednesday Breakfast and Harbour Tour.

☐ **CDAA DAILY REGISTRATION**

☐ CDAA Member	\$55.00
☐ Non-Member	\$65.00

*Includes that day's scientific sessions and exhibits only.

☐ **CDAA SPOUSE/GUEST** \$50.00 _____

*Includes access to exhibits, and Sunday evening registration party.

☐ **STUDENTS**

- ☐ Dental
☐ Hygiene

Complimentary
Complimentary

**Includes scientific sessions and exhibits only.*

☐ **TECHNICIAN/OTHER**

to June 15 after June 15

Please specify _____

\$ 50.00 \$100.00 _____

**Includes scientific sessions and exhibits, and Sunday evening reception.*

Monday's Walk About Lunch	\$ 8.00 per person	_____
Tuesday President's Lunch	\$25.00 per person	_____
Tuesday Night's Lobster Bash	\$45.00 per person	_____
CDA Spouses' Fashion Show and Lunch	\$30.00 per person	_____
Valley Tour	\$35.00 per person	_____
South Shore Tour	\$35.00 per person	_____
CDHA Monday Candlelight Citadel Tour	\$10.00 per person	_____
CDHA Wednesday Brunch and Learn	\$20.00 per person	_____

TOTAL AMOUNT OF CHEQUE ENCLOSED: _____

**Not included in registration package*

ADDITIONAL SOCIAL TICKETS

Sunday Evening Registration Party	\$35.00 per person	_____
Monday Opening Breakfast	\$12.00 per person	_____
*Monday President's Ball	\$50.00 per person	_____

CANCELLATION POLICY: Cancellations are accepted in writing before July 15, 1986, for a full refund. Requests after that date are subject to a 25% administrative charge.

**Note: Please duplicate and complete this form if more than one registration is required*

Make cheque payable to the CANADIAN DENTAL ASSOCIATION, and mail to:

1986 CDA Convention
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6

Do You Think You Have Arthritis?

If you think you do, you're in good company. More than three million other Canadians have it too. For the facts about arthritis, arthritis research and treatment programs, contact the office of The Arthritis Society nearest you. It's listed in your phone book.

THE ARTHRITIS SOCIETY



CDA CONVENTION AUGUST 24-27 · HALIFAX '86

1986 CDA CONVENTION HOTEL RESERVATION FORM

IMPORTANT NOTES:

1. Hotel reservations will be confirmed upon receipt of your Convention Registration Form.
2. Room reservations will be held until 5:00 p.m. on day of arrival. To guarantee your reservation please fill in the required credit card information for Visa, Mastercard, and American Express. Cancellation notice must be given to the hotel at least 24 hours prior to date of arrival.
3. Deadline for Reservations: July 15, 1986.
4. Enquiries concerning accommodation or special requests should be directed to: Ms. Leslie Rich, Your Host Convention Service, P.O. Box 3594(S), Halifax, Nova Scotia, B3J 3J2, (902) 422-8336.

NAME:

(please print or type)

ADDRESS:

(Street)

(City)

(Prov.)

(Postal Code)

TELEPHONE NO.:

(Res:)

(Bus:)

Type of Room Required

☐ Single ☐ Double ☐ Twin ☐ Triple ☐ Other

Suites available upon request.

Arrival Date _____ Time _____ Departure Date _____

Name(s) of other occupant(s) if sharing _____

Indicate first **THREE** (3) Hotel Choices (Rates indicated single/double)

- | | |
|--|--|
| ☐ Halifax Sheraton (CDA Headquarters)
(\$95/\$105) | ☐ Citadel Inn (CDHA & CDAA Headquarters)
(\$75/\$85) |
| ☐ Prince George Hotel
(\$80/\$90) | ☐ Holiday Inn
(\$65/\$71) |
| ☐ Delta Barrington
(\$79/\$91) | ☐ Nova Scotian
(\$68/\$68) |
| ☐ Chateau Halifax
(\$75/\$85) | |

Reservation Guarantee:

Name of Credit Card

Number

Expiry Date

Please Check Appropriate Designation

- | | |
|---|---|
| ☐ Dentist | ☐ Specialist _____
(Please list speciality group) |
| ☐ Hygienist | ☐ Student |
| ☐ Assistant/Office Personnel | ☐ Technician |
| ☐ Other _____ | (Please specify) |

Please send reservation form to:

Ms. Leslie Rich
Your Host Convention Service
P.O. Box 3594(S)
Halifax, Nova Scotia
B3J 3J2

A French dentist/inventor has developed a computer aided device to make a digital "map" of the patient's teeth and then use it to turn out a replacement tooth on the spot, with a precision milling machine.

Dr. Francois Duret recently unveiled his device in Grenoble, France, to a group of invited confreres. He had his wife stand in as a patient to demonstrate how a crown could be produced within an hour. Dr. Duret, who has spent about 14 years trying to perfect his concept, poked a so-called optical probe in his wife's mouth. The probe, cigar-size, was connected to a mini computer which gave a three-dimensional image of a row of teeth on the screen, including the lower right premolar that needed a crown. The computer designed a crown and guided the grinder in the process.

A new company, Hennson International, has been formed and hopes to begin marketing commercial versions of the system at about \$18,000 each. The firm is now seeking partners in the United States and Japan to plan a 1987 sales launch in those countries.

Because dental personnel are so frequently exposed to the possibility of contracting the common cold from patients, it might be of interest to quote some facts about this prevalent health problem from an article in the *New England Journal of Medicine* (Douglas, R.G. — 314 (2): Jan. 9, 1986).

The article states that colds are caused by viruses and of the more than 200 distinct types that produce the illnesses, rhinovirus accounts for 30 to 50 per cent of all colds in adults.

It also debunks some old theories that colds result from exposure to a draft, cold weather, dampness, wet clothing or lack of clothing. None of the foregoing is true.

Dr. Douglas further notes that antibiotics have absolutely NO USE in the treatment of the common cold. Recent studies are reported to have shown that intranasal interferon administered within 48 hours to household contacts of a patient suffering from a cold may serve to prevent the infection in these contacts. This intranasal inter-

feron treatment is particularly beneficial to family contacts of a child who brings home a cold.

And then we have the comforting words (except when you are actually down with the bug) that many clinicians have observed that the symptoms of the common cold, whether treated vigorously or left alone, will usually resolve themselves within seven days.

The first national conference on the woman dentist will be convened August 4 and 5 at the American Dental Association headquarters in Chicago. The goals, expectations and needs of professional women will be addressed.

The Conference will explore ways to involve more women dentists in organized dentistry; provide an opportunity to discuss vital concerns of today's women dentists; and will address the special needs of practising women dentists.

The event has been jointly sponsored by the American Association of Women Dentists and the American Dental Association, with the support of a grant from the Procter and Gamble company.

For those who wish to have details, contact the Bureau of Dental Society Services, ADA, 211 East Chicago Avenue, Chicago, ILL 60611, or telephone (312) 440-2600.

The Government of Saskatchewan has initiated a study of dental manpower within that Province and all dentally-related programs.

The study will examine the programs of dental assistants, hygienists, therapists and dentists.

The committee, on which the College of Dental Surgeons of Saskatchewan has representation, hopes to produce a report of the findings by later this summer.

CORRECTION

In the obituary of the late Dr. James P. Coupland, in the April edition (Vol. 52 (No. 4), Page 256, reference is made in the second last paragraph to Dr. Coupland's

wife as "the late former Jean Elizabeth Young."

This is not true. Mrs. Coupland survives and is living in Ottawa.

The Journal staff regrets any confusion or discomfort the statement may have created.

The Division of Oral Medicine, University of Saskatchewan School of Dentistry, is now actively involved in a recently formed university group known as "Comparative Dermatology." Members include veterinary internists and pathologists of the Western College of Veterinary Medicine, dermatologists of the University of Saskatchewan's College of Medicine and oral medicine/oral pathology personnel from the College of Dentistry.

The group holds quarterly meetings to discuss and present various mucocutaneous diseases in animals and man. Topics discussed in the early meetings have included pemphigus, lupus, candidiasis and squamous cell carcinoma.

Innovations to make visits to the dental office less stressful for patients have been appearing in a variety of forms.

Two Medicine Hat, Alberta, dentists, Dr. Conrad Sonntag and Dr. Kirk Ewa-sechko, have installed small television sets in their operatory ceiling, above the reclining patients' chairs.

Each of the chairs has its own remote control so patients can watch the channel of their choice.

Dr. Sonntag notes that "kids seem to like Sesame Street and MuchMusic and many female patients prefer soap operas and game shows."

Patients who must stay in the chair for lengthy period are sometimes able to watch an entire movie. (Preferably not a Count Dracula tale.)

The dentists had tried using stereo tape players with headphones, but they decided television would be more entertaining because it supplies both visual and audio elements.

"We've had good comments from patients", Dr. Sonntag says. "They like being entertained."



Mrs. Bonnie Craig

Mrs. Bonnie Craig has been named coordinator of the Vancouver Community College Dental Hygiene Program which is being developed with some assistance from the University of British Columbia's program of Dental Hygiene.

The UBC program is now in its final year of operation and is being transferred to the Vancouver Community College.

Mrs. Craig has had 12 years of dental hygiene education experience. She has taught at UBC since 1969.

She received her diploma in dental hygiene from the University of Manitoba in 1965. She recently completed studies for her Masters degree in Education at Simon Fraser University, Burnaby, B.C.

Officers were recently named for the newly-organized Alberta Academy of General Dentistry.

Dr. Clifford Tym of Innisfail, Alberta, has been installed as President. Dr. Henry Yu of Edmonton will serve as Vice-President and Dr. Eugene Dalla Lana of Calgary will fulfil the duties of Secretary-Treasurer.

Alberta joins British Columbia as the second organized constituent of the Academy of General Dentistry in Western Canada.

The 1986 annual meeting of the international body (AGD) is scheduled to be held in Philadelphia, July 11-16.

While dentists in Canada, the United States and Europe continue to be concerned about a lack of busyness, such is not the case in China.

A recent news report stated that there is "a severe shortage of dentists in that country."

There is only one dentist for every 100,000 people, according to an estimate published in the story.

The Florida Dental Association House of Delegates, concerned about showing dental auxiliaries "they're part of the team", has created a section for dental hygienists and another for dental assistants.

The FDA is forming these sections to "stabilize and emphasize the dental team" in "these days of some turmoil among auxiliaries", explained Mr. C. Glenn Wilhite, FDA's Executive Director.

"We want to emphasize the role of the dental hygienist and dental auxiliary in the dental team by creating a section of the association which they could join," Mr. Wilhite said.

The two new sections are not membership categories but are being created as "an adjunct" to the association. The section members will however, receive certain membership privileges such as FDA publications, admission to sections' general meetings, access to FDA insurance programs and access to continuing education

programs at the Florida National Dental Congress. Section members will also be allowed to submit recommendations to the FDA board of trustees.

The period of much more generous funding for dental research in the United States, appears to be passing. The U.S. federal government has announced a cut of about \$4.5 millions for dental research in this fiscal year, as part of an overall move to achieve a balanced federal budget.

The spending cut will reduce the National Institute of Dental Research (NIDR) appropriation during the current fiscal year to \$98.8 millions from last year's \$103.3 millions.

The NIDR, like other government agencies, foresees the possibility of job reduction within its own ranks, to comply with the belt-tightening measures. However, it feels that such job cuts could be effected by not filling vacant positions.

ARE YOU WILLING TO BEAT CANCER?

Of course you are. We all are. But it takes more than wishful thinking. It takes money.

Only two-thirds of the Canadian Cancer Society's total costs can be met by our annual fund-raising campaign. We need bequests and other sources of income for the remaining third.

That's why we're asking you to please insert this one simple sentence in your will: "I give to the Canadian Cancer Society the sum of _____ dollars."

If you help us, expensive research programs can be continued and more can be initiated.

The magic word is 'you.' If you're willing, together we can beat it.

Canadian Cancer Society
CAN CANCER BE BEATEN? YOU BET YOUR LIFE IT CAN.

DENTAL AWARENESS PROGRAM UPDATE

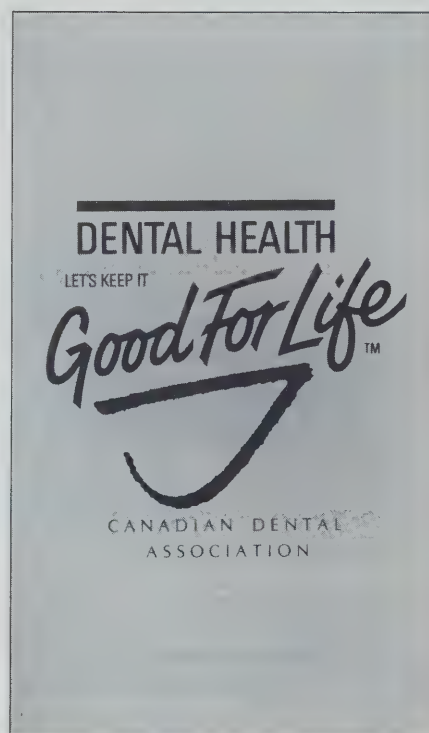
Kudos from Health Promotion Head

DAP's impact on the profession and the public is clear — but it's now also clear that DAP is making a strong impression on policymakers as well. At the reception held for CDA's Board of Governors' meeting in April, the speaker — representing Health and Welfare Canada — was Dr. Peter Glynn, Assistant Deputy Minister, Health Services and Promotion Branch. The subject: the Dental Awareness Program, which he described as "one of the most important activities that the CDA has initiated". Glynn not only endorsed DAP heartily, but also expressed enthusiasm and excitement on behalf of the Department and of Minister Jake Epp.

Reaction at CDA headquarters was jubilant. Said Executive Director Jardine Neilson, "Our basic philosophy toward health care is coincident with Health and Welfare's. On a practical level, this could mean a lot of open windows for cooperation on day-to-day problem solving." From President Dr. Brad Holmes: "Peter Glynn's speech launches us into a new era of government relations."

Praise in Perspective: CDA and Government

According to Dr. Ron Markey, chairman of CDA's Government Relations Committee, government policies affect dentistry daily. (As well as legislation specifically regarding practice, issues of concern include product endorsement, the roles of dental auxiliaries, tax structures, duties on imported equipment and products.) Traditionally, dentistry has had less input into these policies than might be ideal — so dentistry was often left to react to decisions. Last September, CDA established its Government Relations Committee — to create a channel



through which dentistry can offer its perspective and expertise at the planning stages.

Dr. Markey explains that the new committee is working to build individual relationships with people in government. The first step, he says, is establishing dentistry's good faith and credibility. "After all, it's easier to discuss things when your goals and motivations are visible." And thanks to the Dental Awareness Program, that's well underway. DAP demonstrates dentistry's concern. And, says Markey, Dr. Glynn's glowing praise demonstrates a new and "accurate perception that organized dentistry is actively engaged in promoting dental health."

Health Promotion: The Picture, our Part

Health authorities worldwide are directing more and more time and resources toward preventive health promotion. Health promotion as an area of expertise is finally coming into its own. And principles at the forefront of current thought place DAP on the leading edge of health promotion programs;

- **An active approach.** In step with the contemporary shift from cure to prevention, DAP points to solutions rather than focussing on problems. It's designed to enable people to take on new attitudes and behaviours. DAP is changing the way Canadians think about and what they do about their dental health.

- **A societal program.** A key principle in the health promotion community is that responsibility for health is shared throughout society. Through DAP, organized dentistry rallies support from institutions, the media, private industry, and other professions — as well as individual dentists and patients.

- **Information-based.** Another key principle: access to information. DAP makes important information readily available. And DAP *targets* that information — ensures that particular populations get the practical knowledge they need, presented clearly and convincingly in a form they can use.

Some Word of Mouth on the DAP

"As a dentist and a gerontologist, I'm tremendously impressed by the Dental Awareness Program materials. I particularly like the 'Good for Life' theme — the life-long emphasis is excellent, and I think it should be adopted in all kinds of health promotion."

— Dr. Jack Lee, Dental Advisor, City of Toronto Public Health

"Having been involved in all aspects of

public education with health associations for many years, I wish to highly commend the Canadian Dental Association on the development and promotion of this nationwide Dental Awareness Program. This concept is certainly a model that many can emulate to effect positive lifestyle change."

— Blair Mackenzie, Executive Director, Canadian Lung Association

"We at Colgate share the spirit that launched the 'Good for Life' Program and have a keen sense of contributing to this worthwhile endeavour."

— Ronald F. Bonar, Vice-President, General Counsel and Secretary, Colgate-Palmolive Canada

"We are proud of the CDA's initiative in broadening understanding of Canada's most common chronic health problem."

— Malcolm Seath, President, Health Care Division, Warner-Lambert Canada

Joint Seniors' Plan in Toronto

Dental disease among the elderly is an urgent issue, demanding urgent solutions. In Toronto, the Dental Awareness Program and the Public Health Department are joining forces for action. The plan: An intensive, week-long program to promote regular preventive care for senior citizens, scheduled for late June.

Media Highlights

DAP's media specialists report overwhelming success for the Dental Health Month media push. Says consultant Katharine Aziz, "We're thrilled by the results. Local people have placed excellent stories in community stations and weeklies across Canada — and nationally, we're getting lots of positive exposure in high-profile magazines, major dailies, and broadcast networks."

Some recent examples:

- In *Time* Canada, circulation 335,106: a special insert on dental health, with articles on the threat of dental disease, fluoride, plaque, home-care techniques, advice for parents, and the dentist's changing role.
- In *Protect Yourself — Protégez-Vous*, a consumer magazine with a circulation of about 200,000 in English and French: a feature on how to find a dentist, including advice on why regular preventive care is important (and also keeps costs down!)
- On CBC-TV's *The Journal*, broadcast nationally: a 20-minute segment on community water fluoridation.
- On CKO's *The Medical File*, broadcast from Halifax, Montreal, Ottawa, Toronto, London, Calgary, Edmonton, and Vancouver: a 4-part series of two-minute spots on dental health issues.
- On CKO's *Cover to Cover*, broadcast nationally: a special interview with CDA president Dr. Brad Holmes.

DON'T WAIT UNTIL IT HURTS



If it takes pain to get you to go to the dentist, you're asking for trouble. Dental problems usually exist long before there's any noticeable discomfort. See your dentist for preventive checkups.



CANADIAN DENTAL ASSOCIATION

Where There's a Will — There's a Way

If dentistry has been good to you, shouldn't you consider an investment to enhance the profession and help improve the dental health of all Canadians?

Naturally your family and friends deserve your first attention and their future must be looked after. But what about the balance of your estate — the residue over and above the needs of your loved ones and friends?

It's easier than you might think. Just insert one little sentence in your will — "I give to the Canadian Fund for Dental Education the sum of dollars".

Canadian Fund for Dental Education
Suite 205, 44 Eglinton Avenue West
Toronto, Ontario M4R 1A1
Tel. (416) 481-0650



ADIDAS CDHA FUN RUN/WALK

Sunday, August 24/86

Registration Deadline Date: August 5, 1986

Entry Fee — \$8.00/Person

(Includes fun run T-shirt)

NAME (S) _____

ADDRESS _____

T-SHIRT SIZE:

☐ Small ☐ Medium ☐ Large

Send completed form and cheque payable to:

FUN RUN CO-ORDINATOR

P.O. Box 3593

Halifax South Postal Station

Halifax, Nova Scotia

B3J 2J0

Looking To The Future

Canadian Dental
Hygienists' Association
National Convention

Halifax, Nova Scotia
August 24th-27th
1986

TENTATIVE SOCIAL AND SCIENTIFIC PROGRAMS

SOCIAL PROGRAM

Sunday, August 24

- am Fun Run
- pm Wine and Cheese Registration
Harbour Cruise (Complimentary to Early Registrants)
Welcome Party

Monday, August 25

- am Aerobics
Opening Breakfast with Guest Speaker From the True North Syndicate
- pm CDHA President's Luncheon
Candlelight Tour of the Citadel

Tuesday, August 26

- am Aerobics
- pm Lunch on Your Own
Lobster Bash

Wednesday, August 27

- am Aerobics
Brunch And Learn

SCIENTIFIC PROGRAM

Monday, August 25

- am "The Adventures Of Bruce The Dental Health Moose!"
A Lecture/Demonstration Dealing With Motivation Strategies - Bill Wood
- pm Motivating Children In The Areas Of Good Nutrition And Dental Health (Workshop)
- Bill Wood
Dental Hygiene Care For Patients With Special Needs - Peggy Larder

Tuesday, August 26

- am Dental Hygiene Care For Institutionalized Patients - Dr. Ron Ettinger and
Carol van Aernum
- pm Eating Disorders - Marg Shackleton
Disease Activities And Entities. Current Perio Concepts - Dr. John Sterrett
Back Problems Related to Dental Hygiene Practice - Bill Humphries

Wednesday, August 27

- am Stress And The Superwoman Syndrome - Dr. Leah Nomm

Letters

RUMOURS DEBUNKED

It has come to our attention that rumours are circulating that the University of Western Ontario's Dental School is to close. We wish to deny them.

We assume that these rumours stem from the fact that discussions have taken place between the two Universities to explore the possibility of co-operative ventures in dental education. Such discussions were initiated by a recognition that dental education must, and is, changing world-wide in response to the changing nature of dental disease.

The ability of Ontario to respond to this change as it should is severely hampered by the chronic and persistent underfunding, and method of funding, of post-secondary education in the Province and demands that both Schools work together to seek solutions to a shared problem. Such discussions have not considered closing a school; only how co-operative ventures might ensure continued dental education of the highest quality for Ontario.

A.R. Ten Cate
Dean
Faculty of Dentistry
University of Toronto

R.I. Brooke
Dean
Faculty of Dentistry
University of Western Ontario

RE: SALES TAX ON DENTAL MATERIALS

Your special mailing came in the office post today. I am afraid many of us would have taken the tax changes lying down and accepted the increases as an inevitable cost of general inflation. For the Department of Finance and Revenue Canada to rescind a regulation already instituted as an Amendment is something of a record. The arguments used to gain this sort of reversal must have had a great deal of weight and must

have been put forth with skill. We applaud the Chairman of the Taxation Committee!

If Dr. Hicks does not receive much correspondence in the way of congratulations, it is simply that everyone expects this kind of success from him and the committee. Bravo and more power to them!

Harold Waberton, BA; DDS
Vancouver, B.C.

MORE PRAISE FOR TAXATION COMMITTEE

Just a quick note to thank Dr. Hicks and your taxation committee for the effective work opposing the amendments to the Excise Tax Act. It was very refreshing to get some good news regarding tax changes! Thanks on behalf of my patients as well, for keeping the cost of dentistry down.

Karen M. Black, DMD
Bathurst, N.B.

Editor's Note: As can be seen from the letters on this page, the International Association for Orthodontics has taken the time to further clarify the Association's mandate. Apologies are offered by the Journal to the IAO for the misinterpretation of their original press releases which were the sources for a Briefly which appeared in the January 1986 issue.

IAO PRESIDENT RESPONDS

I would like to respond to the letters to the Editor which appeared in the March issue of the CDA Journal regarding the International Association for Orthodontics (IAO). The controversy seems to have arisen when I was elected President of this organization and a press release was mailed from our National Office in Chicago to the CDA. In the press release issued September 23, 1985 the facts were clearly stated: "The IAO was founded in 1961 to provide educational opportunities in orthodontics for general

practitioners and paedodontists". One can plainly see that the IAO did nothing to imply that any of its members were orthodontists. The error was made by a member of the journal staff of the CDA.

The CDA received numerous letters of complaints from orthodontists. My concern is that all the criticism was directed at myself and Dr. Cheng as well as the IAO and no one seems interested in the facts.

I think it is shameful to attack the IAO as not being an accredited institution when the IAO has never claimed to be such. The IAO is simply stated as an organization founded to help protect the rights of the general practitioners and paedodontists to do orthodontics. The IAO offers numerous courses to its 1,300 members in an effort to improve the quality of service for the patient.

The International Association for Orthodontics, as an organization, wants to work in harmony with the Canadian Association of Orthodontists. Fragmentation within our profession is also a concern to both the Academy of General Dentistry and the IAO.

To this end, I have been working diligently to set up a meeting between the two general practitioners' groups and the Ontario Society of Orthodontists.

Brock H.M. Rondeau, DDS
President, IAO

IAO PRESS RELEASES

I have just received a copy of your March (number 3) 1986 issue which rightfully takes issue with your reporting of our organization's new officers and recipient of our International Board of Orthodontics certificate as reported in January.

While you apologize very nicely to "both the CAO and OSO for any misunderstanding this may have caused" by calling our members orthodontists, you somehow imply in your Editor's Note that the misunderstanding was caused by our two news releases.

This is, in fact, not the case, as we fully

understand our status as a non-specialty organization and always spell this out in any news release we issue. To quote from our release announcing new officers: "IAO was founded in 1961 to provide educational opportunities in orthodontics for *general practitioners and children's dentists*."

Again, to quote from the news release announcing that Dr. Richmond Cheng of North Vancouver received our IBO certification, we state: "The IAO is a 24-year-old organization of general dentists and children's dentists dedicated to providing opportunities in orthodontic education for its members, in order to provide full and quality service to all patients. The IBO, administered by IAO, is — at 21 years old — the oldest of the *non-specialty* orthodontic Boards."

If your reporter had read each news release with comprehension, and an understanding of the difference between specialists and non-specialists, your inaccurate reporting would not have occurred. To imply that our news releases were inaccurate is a disservice to an organization which has always been proud to emphasize that it is non-specialist. I would hope you will correct your misleading impression as soon as possible.

Joanna Carey
Executive Director
International Association
for Orthodontics,
Chicago, Illinois

SUPPORT FOR CDA LIBRARY

I am enclosing my cheque for one hundred dollars to the fund for the Sydney Wood Memorial Library.

I vividly recall Don Gullett telling me shortly after Doctor Bradley passed away that he had bequeathed fifty thousand to the Library fund and I also recall being present when the (CDA) headquarters building at 234 St. George St. was expanded and the Library opened. On that occasion, Paul Martin cut the ribbon for the official opening and I remember that when he spoke on that occasion he remarked, and I quote: "The Canadian Dental Association has its feet on the ground and knows where it is going."

I trust that you have a good response to the Fund from the remaining Past-Presidents.

A.J. Coughlan, DMD
Saint John, N.B.

Editor's Note: Dr. Coughlan, who is 93, was President of the CDA in 1953-54. He graduated from the Tufts University School of Dental Medicine, Boston, in 1918.

DISABILITY INSURANCE ARTICLE

I was glad to see Bob Brandon's article on disability insurance. This is an area of the dental business left largely untouched at dental school and rarely presented to the graduate except by an insurance salesman. When I graduated, I talked to a few salesmen and then made my decisions based on no experience and a relatively poor financial position.

My rationale was to buy a small amount of insurance while associating and later, after setting up, I would upgrade accordingly. This seemed reasonable as you can only collect a maximum of 60 per cent of your office income anyway, regardless whether you have more coverage than this. Having extra insurance seemed a waste of money at the time. I found out quickly how false this rationale was. After two years as an associate and planning to set up, I sus-

tained major nerve damage in my right wrist, paralyzing the hand. Being a right-handed dentist, I was looking at a future of \$1200 a month, from disability insurance.

If I could start again, as a new graduate, I would buy as much disability insurance as I would ever need, or more, even if I over-insured myself. The time to be insured is at the start of one's career, when you have the most to lose and few investments to depend on. Later, when liabilities are fewer, the need for disability insurance may decrease.

When younger, disability insurance is cheaper and easy to get. It is also non-cancellable for life. Even though I have since returned to work full-time after a series of very successful operations, I still cannot find a company, including CDIP, who will insure me. Who would have thought I would be uninsurable at 30 years of age.

Dave Mossop, DDS
St. Catharines, Ontario

OBITUARIES/NÉCROLOGIES

COMEAU, J.E.: A life member of the Canadian Dental Association, Dr. Comeau was a graduate of the University of Montreal in 1943. He was born in 1914.

CULHAM, D.I. "Doc": Dr. Culham was a graduate of the University of Alberta in 1947. He was born October 30, 1923 and was a resident of Ponoka, Alberta, at the time of his death.

DEANE, A.J.: Dr. Deane was a graduate of the University of Alberta in 1983. Born in 1959, he was a resident of Canmore, Alberta, at the time of his death.

IDLE, Capt. P.: A graduate of the University of Toronto in 1984, Captain Idle was a resident of Richelieu, Québec, at the time of his death.

McDOUGALL, D.A. Roy: A life member of the Canadian Dental Association, Dr. McDougall was a graduate of the University of Toronto in 1928 and the Eastman Dental Center, Rochester, NY, in 1929. He practised in Ottawa until retirement in 1965 and was a resident of Morrisburg, Ontario, at the time of his death.

McNALLY, G.: Born in 1919, Dr. McNally graduated from the Univer-

sity of Glasgow in 1951. He was a life member of the Canadian Dental Association and a resident of Malaga, Spain, at the time of his death.

NATHANSON, I.: Dr. Nathanson was a graduate of Dalhousie University in 1944. He was a resident of Halifax, Nova Scotia, at the time of his death.

REVELL, A.M.: Born in 1903, Dr. Revell graduated from the University of Alberta in 1929. He was a life member of the Canadian Dental Association and was active in the Edmonton Dental Society, where he was a resident at the time of his death.

SEABROOK, N.: Dr. Seabrook was a graduate of the University of Toronto in 1964. He was a resident of Toronto, Ontario, at the time of his death.

STEELE, A.: Born in 1895, Dr. Steele graduated from the Royal College of Dental Surgeons in Toronto in 1916. He was a resident of Mississauga, Ontario, at the time of his death.

TRITT, J.N.: Born in 1915, Dr. Tritt was a Life Member of the Manitoba Dental Association. He was born in Fort William, Ontario and practised most of his dentistry in Winnipeg. He was a graduate of the University of Toronto.



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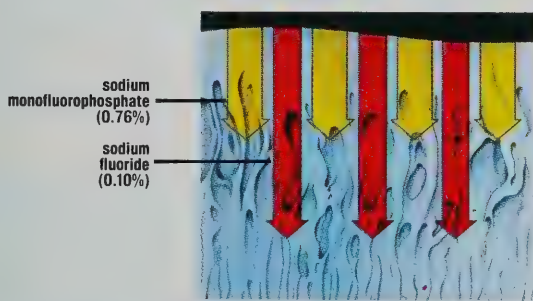
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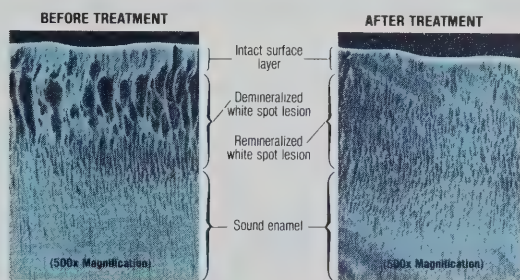
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LA RETRAITE

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Abstract:

This paper reports on the results of a national survey of retired dentists carried out in the winter and spring of 1984. More than eight in ten of the respondents were general practitioners. Most retirees are between the ages of 60 and 69, married, and report their overall health at retirement to be excellent or good. As do retired scientists, dentists find intrinsic gratification in the work role, but apparently accept retirement as part of the life cycle. Retired dentists have income substantially greater than retirees in general. They are well-adjusted to retirement. Additional leisure time for hobbies, flexibility in owning one's own time, and social activities with family and friends seem to be the main contributors to this satisfaction. Investment planning,

health assessment, enthusiasm for outside interests, and personal preparation for retirement with spouse are reported as important in retirement planning. Retirement is not a satisfying experience for all dentists. Some do report experiencing uselessness and depression. A still smaller proportion report feelings of loneliness and inadequacy.

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One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged \$5. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational in the library since February 1982, and is at the disposal of all members.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour \$5 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS.

LIBRARY ACQUISITIONS

TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Ford, T.R. Pitt. *The Restoration of Teeth*. Oxford, England: Blackwell Scientific Publishers, 1985. 309p. 1 copy.
2. Wulf, Colleen A., editor, and others. *Abuse of the Scientific Literature in an Antifluoridation Pamphlet*. Columbus, Ohio: American Oral Health Institute, 1985. 178p. 1 copy.

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Book Reviews

CLINICAL PHARMACOLOGY FOR DENTAL PROFESSIONALS

Sebastian G. Cianco and
Priscilla C. Bourgault

2nd Edition
P.S.G. Publishing Company Inc., 1984
\$29.50 U.S.,
400 pages

The second edition of this book is quite well presented and covers many topics of importance to dental professionals. It contains a number of tables which are useful and informative for quick reference, particularly the ones on drug interactions. The various appendices are clear and concise and Appendix B which gives categories of commonly used drugs with brand names is helpful.

The main drawback to this book is that in places it is lacking in basic pharmacology. Much factual information is given without always providing sufficient pharmacological background to explain how or why a drug acts as it does. This is inadequate for students. As future professionals taking drug histories, and administering and prescribing drugs, they must have a good working knowledge and understanding of the mechanisms of action and interactions of most classes of drugs.

The chapter on antibiotics, for example, provides no idea of the concept of selective toxicity and little detail of the mechanisms of action of this important group of drugs. Indeed, confusion could arise from this lack of detail: if, as stated, bacteria resistant to one type of tetracycline will be resistant to all tetracyclines because they act the same way, does this not imply that all agents acting by inhibiting bacterial protein synthesis would be similarly ineffective against these bacteria? In the section on penicillins, it would be useful to know why some types of penicillin are inactivated by penicillinase but others are not. The authors, in several places, warn against giving particular drugs to patients suffering from certain conditions but no explanation is given, or if it is, it is lost in the text elsewhere. This is annoying to the reader. The chapter on sedatives has over three pages on benzodiazepines without mentioning the interaction of these drugs with GABA and its receptors in the brain. Apart from any pharmacological significance, such information makes the subject more interesting and therefore more likely to be remembered.

A basic criticism of this book, that it lacks important detail, does not apply to the section on non-opiate analgesics where the current concepts of the effects of A.S.A. and related drugs are well presented. An understanding of the influence of aspirin on cyclooxygenase makes it far easier to comprehend the actions and side effects of the nonsteroidal anti-inflammatory drugs (NSAIDS).

The question of content is always difficult in a book such as this; however, a chapter on immunosuppressive and antineoplastic agents could have been added to this edition.

Overall, this book is more a review for those who already have a good background in pharmacology than a textbook for students.

*This book was reviewed by
L.A. MacDonell, B.Sc., Ph.D.
Department of Pharmacology
Dalhousie University
Halifax, N.S.*

PURE MUCOGINGIVAL PROBLEMS

Walter B. Hall

*Quintessence Books
Chicago, Ill. 184 pgs.*

The cover of this excellent book states: "Pure Mucogingival Problems is the first text exclusively about problems of inadequate attached gingiva as distinguished from mucogingival problems caused by periodontitis. . . . It was written primarily for practitioners — general practitioners, prosthodontists, periodontists, orthodontists, pedodontists and hygienists — who discover cases of inadequate gingiva and must make treatment or referral decisions." Anyone familiar with Walter Hall, his research, writings and clinical ability will not be surprised at the clarity of this easy to read book. It is well organized, well illustrated and well documented with pertinent references.

In Part I — Overview, his introduction updates the reader on the histological features of the problem upon which all decisions to treat or not to treat are based. This is followed by chapters on What Is Gingiva, Etiology and Pathogenesis of Recession, Epidemiology, What is Enough Attached Gingiva and concludes with an interesting discussion of whether Attached Gingiva can be increased without surgical intervention.

In Part II, Hall describes in meticulous

detail classification of surgical techniques, the Laterally Positioned Pedicle Graft with various modifications, and the use of the Free Gingival Graft as well as the use of this in combination with the Coronally Positioned Flap. He gives deserved credit to the late Harold E. Grupe who together with Warren published in the Journal of Periodontology in 1956, the "Repair of Gingival Defects by a Sliding Flap Operation" which opened up a vast new and exciting area in the field of periodontal therapy.

Part III is devoted to Additional Considerations and one can not stress too strongly his recommendation that "All dentists have an obligation to diagnose mucogingival problems and to discuss them and their therapy with every patient before undertaking any dental treatment." He further states that "Current research may be used to justify prophylactic grafting or to justify waiting until recession has occurred. In the absence of definitive information, the practitioner is best advised to discuss the pros and cons of prophylactic grafting with each individual patient whom he feels is predisposed to recession because of inadequate attached gingiva and to allow the patient to decide whether to select prophylactic grafting or not." In this day and age when medico-legal problems are becoming commonplace, one should not have to be reminded of this fact.

Prior to the well organized index, an addendum appears which provides updated information on the subject which appeared after the book was written. The "Scientific thinking" of the author becomes apparent in the manner in which he is able to "dissect" the literature.

Whether the dentist and hygienist believe that mucogingival problems exist or not — whether they should be treated or not — and if treated, How — is immaterial. "Pure Mucogingival Problems" is a book that in the opinion of this reviewer, should be read by all practicing dentists — general practitioners and all specialists — and dental hygienists; it should also be required for senior dental students.

In summary, Pure Mucogingival Problems is presented in an easy to read style and in straightforward language; in this reviewer's opinion, it should be kept close at hand for easy reference once it has been read and digested.

*This book was reviewed by
Robert F. Harvey, DDS,
Faculty of Dentistry,
McGill University.*

A GUIDE TO SUCCESSFUL DENTAL PRACTICE

John O. Forrest

John Wright and Sons Ltd.
Littleton, Mass.
\$12.50 U.S.:
132 pgs.

This paperback covers a wide range of practice management considerations — from planning a dental career through choosing a location and equipment to selecting staff, managing finances and keeping up with continuing education. The author makes it clear, however, that his emphasis is on establishing and maintaining satisfying relationships with both patients and staff.

At first reading, the book seems inappropriate for Canadian readers as the author makes frequent allusion to the U.K. National Health Service and its various implications for British dental practice. Also, his comments in the chapter on the Woman Dentist are behind North American experience. On the other hand, the author offers much practical advice on caring for patients — especially how the dentist, his or her staff, and the practice environment can foster self-confidence in anxious patients. Such advice has a universal application.

Heavy emphasis is placed on the attitude of the dentist being the key to a successful dentist-patient relationship. By this he means the dentist must be constantly alert as to what makes the patient tick. For example, he acknowledges the obvious — patients obtain an instant (and lasting!) impression of their dentist at the first visit. He goes on to point out that dentists can not be sure they have judged their patients accurately at the first visit due to patients' overlay of nerves, fear, and lack of self-confidence. The real personality of the patient may only become clear at a later date.

Based on his above average sensitivity and acutely observant eye, the author gives many tips on caring for anxious patients. He criticizes equipment manufacturers who do not supply warming capability for syringed air and water as a matter of course and devotes considerable space to suggesting how local anaesthesia can be used with a minimum of discomfort to the patient.

In summary, this book discusses fundamental components of setting up and running a dental practice. In my opinion, its most valuable sections deal with caring for the patient in a sensitive and practical manner.

*This book was reviewed by
Dr. A.E. MacLeod
Sydney, N.S.*

FUNDAMENTALS OF FIXED PROSTHODONTICS

Second Edition by
H.T. Shillingburg, S. Hobo
L.D. Whitsett

Quintessence Publishing Co. Inc.
Chicago, Illinois
\$48.00 U.S., 455 pgs.

The past 10 to 15 years has witnessed remarkable advances in restorative dentistry from both materials and technique points of view. Reference books and text books previously regarded as standards have since become outdated as a result. For a considerable period of time there seemed to be no complete and up to date crown and bridge text for undergraduate teaching and for general practice reference. About 1978 the first edition of the work by H.T. Shillingburg, S. Hobo and L.D. Whitsett was published and distributed by Quintessence Publishing, and adequately brought the reader up to the moment in basic crown and bridge procedures. The same publisher in 1981 presented a revised and expanded version entitled "Fundamentals of Fixed Prosthodontics" Second Edition, which is the subject of this review.

The stated purpose of the book is "to serve as an introduction to the area of restorative dentistry dealing with cast restorations, porcelain fused to metal restorations and fixed bridges." It provides sufficient background knowledge to be an excellent guide for the novice as well as being a refresher for the experienced practitioner.

This 400 page text is written in a simple, easy to comprehend style. With the underlying philosophy being a conservative approach to restorative dentistry, it describes the necessary basic procedures involved with single tooth cast restorations and uncomplicated short-span fixed partial dentures. The various subject areas are discussed adequately and concisely with the language used being straight forward and easy to understand.

The authors deal with all aspects of therapy used in the placement of cast restorations including both chairside as well as laboratory procedures. Within the book, the reader will find diagnosis discussed, followed by tooth preparation, provisionalization, impression making, casting, and finishing techniques. To complement the basic chairside procedures are chapters on the fundamentals of occlusion, case articulation, fluid control and soft tissue management, principles governing tooth preparation, bridge design and construction, and techniques for restoring extensively damaged teeth.

Working in concert with and enhancing the descriptions in the written part of this book, are the very well executed black and white illustrations. Possibly half of the total page area is illustration with each concept and each step of every technique contained within being adequately pictured. The diagrams make the book a superb aid to teaching and clinical practice.

In conclusion, I believe "Fundamentals of Fixed Prosthodontics" to be a high quality and useful publication for those who employ cast restorations in the practice of general dentistry. I recommend it to practitioners who want a chairside reference, to teachers who require a well illustrated and descriptive text, and to students who need an easy to understand, contemporary explanation of cast restoration procedures.

*This book was reviewed by
Dr. R.A. Bannerman,
Operative Dentistry,
Dalhousie University.*

PROCEEDINGS CONCENSUS CONFERENCE: THE RELATIVE ROLES OF VESTIBULOPLASTY AND RIDGE AUGMENTATION IN THE MANAGEMENT OF THE ATROPHIC MANDIBLE.

P.J.W. Stoelinga Editor

157 pages. Illustr.
Quintessence Publishing Co.
Chicago, Ill. 1984

As dentistry heads towards the final decade of the twentieth century, its practitioners continue to wrestle with one of the legacies of her imperfections — the edentulous and continually resorbing alveolar ridge that ultimately creates a frustrated dental cripple. The Eighth International Conference of the International Association of Oral and Maxillofacial Surgeons, held in 1983 in Berlin, gave nine internationally recognized prosthodontists and oral surgeons a forum to weigh their collective experiences in this area and their presentations are the meat of this text.

The first half of this book examines the indications, techniques, materials and prognostic considerations presently associated with the use of vestibuloplasties. For obvious reasons, these discussions are limited to the mandible. Comparison of the use of skin or mucosa as a grafting material is discussed intelligently, and while the authors feel that biologically, mucosa is superior, there is no agreement on a better donor site i.e. palate or buccal mucosa. Since patients with severe atrophy have lost significant soft tissue support in the chin, it is recog-

nized that any vestibuloplasty will aggravate the esthetics of this area. While there was no consensus on a minimal height of residual ridge that contraindicates vestibuloplasty alone, there was agreement that ridge height of less than fifteen millimeters present considerable technical problems.

The next eight chapters present a similarly formatted discussion of surgical ridge augmentation procedures. Virtually every method of autogenous bone technique is explored, as well as a cursory chapter on the use of alloplastic hydroxylapatite particles. It is acknowledged that nerve damage (often transient) is almost unavoidable when performing any osteotomy in the body of the mandible. Repeated comment is directed toward the necessity for continuing co-operation between the prosthodontist and the surgeon from the diagnosis outset through the post treatment follow-up.

In 1983, it may have seemed logical to restrict the modalities of treatment to include vestibuloplasty and/or augmentation, but in doing so, this appears to have unfairly prejudiced the results of Branemark and others who had been collecting data on the use of osseointegration techniques. Recent findings at the University of Toronto and other centres suggest that with further refinement of and reduction in the cost of hardware, the use of osseointegration techniques may make the employment of both vestibuloplasty and augmentation as treatment modalities archaic. Until that time however, this book can serve as an informative if limited review, of diagnosis and treatment of atrophy of the edentulous alveolar ridge.

*This book was reviewed by
Dr. J.H. Gryfe,
an oral maxillofacial
surgeon in Toronto*

A PRIMER ON DENTAL PRACTICE MANAGEMENT

Gaskins, Leslie E.

Reston Publishers, 1985
Reston, Virginia
\$15.95 U.S., 213 pgs.

Leslie E. Gaskins' recent book, which I read last summer (1985), is a very worthwhile contribution to the dental literature. As is mentioned in the book's preface, it is written for dental students and dentists who either have had very little or no experience or who wish to review the basics of dental practice management.

The organization of the book is excellent in that it begins with "Planning and Objective Setting" and leads into the various practice management topics. I am a firm

believer in knowing where you're going before you start out, and the author does a very good job of summarizing the planning process and explaining the Management by Objectives concept as applied to the dental practice situation.

Most of the basic practice management topics are covered, with an emphasis on the business management topics applied to the dental practice setting. A few of the less business-oriented practice management topics are not covered (e.g., office design and layout, chair-side efficiency and stress management), and only one paragraph is devoted to appointment book control. For the most part, the information presented is of very practical value; although, from time to time the material becomes a bit academic (e.g., in chapter 10, the basic motivational paradigm is: $M = f(E > P) \times (P > O) V$).

The book is written in a manner which is sound from an educational point of view. It will serve very well as a practice management course text book. Each chapter begins with a statement of learning objectives, is followed by a presentation of the relevant information and ends with a post-test in the form of a series of review questions based on the learning objectives for the chapter.

For those who like flow-charts, the author uses them abundantly throughout the book. Although they are well-formulated, at times they make the book seem a little too academic.

In summary, although there are some minor drawbacks, this is an excellent book for the dental student or dentist who wants more knowledge about the business side of running a dental practice. It is well worth the \$15.95 US investment.

*This book was reviewed by
H. Jack Stockton, DMD, CFP
Practice Management Course Co-ordinator
Faculty of Dentistry,
University of Manitoba*

THE CROZAT TECHNIQUE

F. Schwarzkopf & E. Vogl

Quintessence Publishing Co., Inc., 1984
Chicago, London, Berlin,
Rio de Janeiro & Tokyo

The work of consolidating this small book (133 pages) was addressed to the dental technicians and professionals who are interested in learning the basic Crozat technique and therefore the primary emphasis is on the laboratory experience with the technique.

Overall the book is divided into three major parts — Part 1 (40 pages and 72 figures) very briefly outlines the development of the appliance, its use in maxillofacial orthopedics, comparisons with conventional

devices, and the elements of its makeup. The chapter also deals briefly with the indications for treatment, the four phases of treatment and its mode of action. Part II (59 pages, 261 figures) covers and very well illustrates the laboratory technique of appliance construction. Part III (34 pages, 94 figures) is well illustrated on appliance design for stipulated individual case problems.

Part I could have been laid out more clearly. Also the proposal that the Pont's Index is to be used as the sole method of deciding on treatment objectives has to be the weakest argument in the book. The actual technical portions are very well done, but the clinician must anticipate problems if one begins to treat even simple cases with this appliance without the pre-existing sound basis for diagnosis and treatment planning. Most clinicians appreciate that appliances are not the basics in the treatment of malocclusions but rather that a good history, a good clinical examination, good records, case analysis, diagnosis, treatment objectives, and good treatment planning is the proper beginning of any case. Whether we choose to treat the case with a Crozat, functional, edgewise or any other method, the treatment mode should depend on the specific characteristics associated with that case. Few if any practicing physicians prescribe the same antibiotic for all infections. Neither should we prescribe the same treatment plan and appliance therapy for all cases of malocclusion. During the initial presentation of this appliance in 1929 Dr. Crozat himself acknowledged that "Removable appliances constructed with nobel metal are not universal, neither do I think there is any appliance which is ideal and universal in the treatment of all forms of malocclusion".

The authors have been specific in the listing of the indications of the Crozat appliance and the objectives of each of these phases of treatment. Concerning retention they state that for a case to retain well, one must have exact vertical relations, good curve of Spee, exact curve of Wilson, exact cusp fossa relationship, and the mandible must be in centric relation. These are important points to which could be added good intra-oral health, good soft tissue and face balance.

This book is recommended for the laboratory technicians and those professionals who have developed an acute sense of diagnosis and treatment planning and are interested in learning the basic Crozat technique.

*This book was reviewed by
Dr. Frank Popovich,
Faculty of Dentistry,
University of Toronto.*

A PROFILE OF DENTAL CLINIC PATIENTS REPORT OF A SURVEY

G. Wayne Raborn, DDS, MS, FAGD
J.M. Calvert, DDS
Edmonton, Alberta

ABSTRACT

During the fall and winter of 1984, the Faculty of Dentistry, University of Alberta, conducted a survey of a portion of its patient population. Of 400 questionnaires distributed, 285 were completed and returned. Each questionnaire consisted of 13 multiple choice questions covering a wide range of topics. The responses not only provided important demographic information, but served to elicit the patients' reactions to the faculty and to the care and treatment they had received. The survey also enabled patients to state in general terms which aspects of dental service they perceived to be of greatest importance when seeking dental care.

SOMMAIRE

Durant l'automne et l'hiver de 1984, la Faculté de médecine dentaire de l'Université de l'Alberta a distribué un questionnaire à 400 personnes dont 285 y ont répondu. Le questionnaire comprenait 13 questions qui couvraient de nombreux sujets et pour lesquelles on proposait différentes réponses. Grâce à ce questionnaire, on a pu non seulement obtenir des renseignements démographiques, mais aussi savoir ce que les patients pensent de la Faculté et des soins qu'ils y ont reçus. Les patients ont pu en outre indiquer en général les services qu'ils jugent les plus importants lorsqu'ils ont besoin de soins dentaires.

During the fall and winter of 1984, the Faculty of Dentistry, University of Alberta, conducted a survey of its patient population, in an attempt to establish a demographic

profile of clinic patients and to gain some insight into their attitudes and problems. It is hoped that the results of this survey will prove significant, especially when viewed in the context of the decreasing rate of dental disease and reports of declining patient supply by some North American dental schools.

A similar survey of nine dental schools in the United States was conducted by Dr. L.H. Meskin and his group from the University of Colorado, supported by a grant from the American Fund for Dental Health. The results of their survey were presented by Dr. B. Entwistle¹ at the American Association of Dental Schools meeting in March 1984. The AFDH questionnaire was modified somewhat for use in this survey, but the main thrust of the questions remained intact. Therefore, a future paper could prove useful in exploring the differences and similarities of the results of the two studies.

Literature Review

Grewe et al.² published a profile of the University of Minnesota's dental patient population in 1968. The study was limited to a demographic profile of the patients and showed them to be a representative sample of the population of the area served. They noted that over 30 per cent of both male and female patients were referred to the school clinic by friends. Meskin³ in 1969 and Calisti⁴ in 1970 addressed the problems of obtaining patients and the potential sources of new patients for dental teaching clinics. Calisti cited "excellence of service" as a major attracting factor.

In 1974, Stacey et al examined the factors which affect patients' completion of

treatment within a dental school. Among other conclusions, they stated that "patients who completed their treatment are either more reliable, responsible and motivated and/or more positively regarded and managed by their student dentist than are patients who do not complete treatment." They also concluded, "dental students and faculty need to be sensitive to the clinical and emotional needs of patients." Also in 1974, Soule et al.⁶ used a questionnaire to determine that 55 per cent of the patients surveyed at the University of Iowa reported "cost" was a factor in their decision to seek treatment at the dental school. Convenience and satisfactory treatment were also important factors reported in this survey.

More recently, in 1983, Horten et al.⁷ researched the factors which influenced patients in selecting a dental school for their treatment needs. They reported the "cost factor" to be the primary reason. "Reputation" of the dental school and receiving "satisfactory treatment" were also reported as important selection factors.

Method

Four hundred forms were distributed to the various clinical areas in the school in the following ratio — 60 per cent to the main clinic and 20 per cent each to the DAU and Dental Hygiene clinical areas. These clinics were designated by use of a code on each questionnaire. An effort was made to include only those patients who had made several visits to the faculty and whose treatment experience covered a wide range of disciplines. The questionnaire was self-explanatory and included introductory remarks by the Director of Patient

Management, outlining the purpose of the survey and soliciting patient cooperation (Tables I-V). The instructions also stressed the importance of anonymity. Some questionnaires were filled out following the treatment appointment and handed in at the reception desk; others were filled out in the patient's home and returned to the school by mail. It should be noted that the survey included adult patients only.

TABLE I

Location of patient when surveyed

Clinic	% of Survey
Hygiene	25.6
Main clinic	50.2
Diagnosis/radiology/ endo surgery	16.0
Dental auxiliary utilization	8.2
	100.00

TABLE II

The demographic profile and employment status of all patients surveyed

Demographic profile	% of patients
Age:	
18-24	16.5
25-34	28.7
35-50	26.9
51-64	23.3
65-74	4.3
75 and over	0.4
Sex:	
Female	57.5
Male	42.5
Employment status:	
Employed (full time, part time, self employed)	56.7
Unemployed	6.8
Students	18.9
Homemakers	21.4
Retired	9.6

TABLE III

How patients learned about the faculty dental clinic

	% of patients
1. Referred by medical person	8.1
2. Friend or relative employed at faculty	20.5
3. Phone book	4.9
4. Heard elsewhere (news-paper, TV, etc)	24.7
5. Friend or relative is patient	35.0
6. Referred by hospital or clinic	1.8
7. Other	15.2

Data Collected

Of the 400 forms distributed, 285 were completed and returned, giving a response rate of 71 per cent. Location of patient when surveyed, as determined by codes on completed questionnaires, is listed in Table I. The percentages in some categories may exceed 100 per cent due to the fact that more than one answer may have been applicable.

Results and Discussion

Although the survey was confined to patients in a university setting, it is reasonable to assume that the responses reflect concerns and issues which might apply to other treatment clinics or private dental practices. For example, in Table VI, patients listed high quality of treatment, a clear explanation of treatment needs and the importance of a caring attitude of those responsible for delivering their dental services, as the most important aspects of

TABLE IV

The various modes of transportation used by patients in visiting the faculty dental clinic and time involved in making the trip

Modes of transportation	% of patients
Personal conveyance	46.6
Public transportation	41.1
Walked	12.5
Rode with others	8.6
Others	0.4
Time involved	
5-15 minutes	25.8
16-30 minutes	35.1
31-60 minutes	29.7
Over 60 minutes	9.3

TABLE V

The various services received by patients answering the survey

Procedures	Percentage of Respondents
1. Teeth examined	76.5
2. Teeth cleaned	67.5
3. Teeth restored	51.6
4. Fluoride treatment	36.3
5. Teeth extracted	26.3
6. Bridgework	23.1
7. Dentures	19.2
8. Endodontics	16.7
9. Bite adjusted	13.1
10. Perio surgery	10.0
11. Emergency treatment	8.5
12. Orthodontic treatment (adult)	1.4
13. Other treatment not listed	2.5

treatment. Even in a teaching environment, where lower fees have traditionally been considered the primary attraction,⁷ it is interesting to note that when tabulating the features most liked about the dental clinic (Table VII), patient response again stressed the importance of a caring attitude and high quality of treatment.

Female patients outnumbered males by a small margin. The overall age range was fairly evenly distributed between the ages of 18 and 64. After age 64, the number of patients who received treatment in the faculty dropped significantly (Table II). This could be attributed to a sampling error, even though every attempt was made to select a representative sample of the patient population.

Because of our central location, 61 per cent of the patients were able to commute to the clinic in 30 minutes or less. Even though excellent bus and taxi services are available to and from the university, a significant number of patients preferred to use private transportation (Table IV), despite the fact that parking was cited as the major problem encountered in seeking care in the faculty (Table VIII).

Table III reveals that more than half of the patients surveyed (55.5 per cent) learned of our clinic from friends or relatives who had received treatment in the faculty or who were employed by the faculty. It can be assumed that in the first category, friends and relatives who had received treatment in the faculty (35 per cent of the 55 per cent) were satisfied patients.

In Table V, 76.5 per cent of the patients surveyed stated that they had received an examination. This figure is puzzling because all patients receive an examination prior to being assigned for treatment. However, the extent of the examinations vary somewhat, depending on the complexity of a given case. Patients requiring only routine hygiene care, for example, may receive an abbreviated work-up before being referred/assigned for treatment. This could account for the 76.5 per cent figure given.

Inadequate parking facilities and the long duration of appointments received the highest percentage of responses from patients surveyed regarding problems encountered while receiving treatment in the faculty (Table VIII).

In all probability, this same response would be elicited from patients in most large teaching institutions. Even though, of necessity, our appointment scheduling system and hours of operation are rather structured, very few patients perceived this to be a problem (10.2 per cent and 5.7 per cent respectively).

In Table IX, 62 per cent of patients surveyed listed "personal" as the method used

in financing their dental treatment. Thirty-eight per cent of those surveyed had some form of dental insurance coverage, which indicates that a substantial number of patients with dental insurance seek treatment in the faculty. Yet, in Table X, we find a contradiction, since 25.8 per cent of patients surveyed stated that they would seek treatment elsewhere if they had insurance coverage.

Table III leaves the impression that very few patients received orthodontic treatment in the faculty. It should be pointed out that the survey did not include patients who were being treated in the Orthodontic Graduate Clinic.

Summary

A survey of 285 patients was conducted by the Faculty of Dentistry at the University of Alberta, in an attempt to establish a demographic profile and gain some insight into the attitudes and problems of its patient population. Although the survey was limited to patients in a university teaching clinic, the responses may be of interest to dental practitioners. For example, the features in Table VI which were perceived by patients to be the most important aspects of dental care, could apply to a variety of treatment settings.

The modest fee schedule, followed closely by the caring attitude of staff and high quality of treatment were cited as the features most liked about the faculty. Inadequate parking facilities and the long duration of appointments received the highest percentage of negative responses.

The majority of patients learned of the clinic by "word of mouth". Fifty-eight per cent of those surveyed were female and there was an even distribution between the ages of 18 and 65. Public and private transportation appeared to be equally preferred as a means of attending the clinic, and 60 per cent of patients were able to commute to the clinic in 30 minutes or less. Approximately 58 per cent of those surveyed reported that they were employed; the remainder were either homemakers, students, unemployed or retired. Thirty-eight per cent of those surveyed were covered by some form of dental insurance.

Conclusion

The results of the survey, while producing few surprises, serve to confirm a long-established tenet of patient care and management which recognizes the importance of the "human" element in dentistry.^{3,5,7} Although fees and quality of treatment were judged important by those surveyed, attention to human needs received a similar high rate of response.

A primary objective of the faculties of dentistry is to assist students in acquiring knowledge and technical skills. Another important aspect of this educational process is the development of those human qualities and attitudes which will ensure a high standard of professional judgement and behaviour necessary to serve society responsibly and effectively.

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Reprint requests to Dr. Raborn.

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TABLE VI

Patients' perception of the most important aspects of dental care

	Percentage
1. Feeling that all treatment is of high quality	98.2
2. Receiving a clear explanation of my treatment needs	96.7
3. Feeling that the faculty/student cares about me as a person	90.8
4. Having all my dental needs met at the clinic	90.2
5. Having my treatment completed quickly	82.8
6. Being seen promptly for my appointments	79.5
7. Being treated by the same student each time	72.4

TABLE VII

Features most liked about the faculty dental clinic

	Percentage
1. Reasonable cost	85.9
2. Caring attitude of staff	72.8
3. High quality of treatment	67.8
4. Pleasant facility	61.1
5. Ability of clinic to meet dental needs	57.2
6. Convenient hours	28.3
7. Adequate payment arrangements	27.9
8. Other factors	3.5

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TABLE VIII

Problems encountered by patients while receiving care at the faculty dental clinic

Problems:	% of Respondents
1. Parking	31.1
2. Length of appointments	27.2
3. Scheduling of appointments	10.2
4. Transportation	6.4
5. Inconvenient hours	5.7
6. Not all needs met at clinic	5.3
7. Cost or inconvenience of child care (while attending appointments)	5.3

TABLE IX

Financing of dental care

Funding Source	% of Respondents
1. Personal	62.0
2. Dental insurance	23.5
3. Alberta Health Care	11.7
4. Other 3rd party coverage	2.8

TABLE X

Factors which might cause patients to seek care elsewhere

	Percentage of respondents
1. If only part of my dental needs met at clinic	27.2
2. If cost of my dental care was covered by dental insurance	25.8
3. If another clinic with lower treatment fees was available elsewhere	15.5
4. If another clinic or dental office was located closer to my home or work	4.2
5. Other factors not listed	4.2



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Extensive plan changes

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Specialty Features

NEGOTIATING A HOUSE PURCHASE

J. Robert Gardiner, BA, LL.B

You've been searching and searching for the ideal property. You asked your real estate agent to show you old farm houses until you realized that what you really wanted was a semi-detached duplex with a downstairs tenant. Finally, at the brink of exhaustion you find the dream house that fits into your very realistic budget.

The Poker Game

Whether purchasing a margined investment or a palace, negotiating the Agreement of Purchase and Sale can make poker seem like child's play. Your real estate agent (the selling agent — he's really a subagent of the vendor's listing agent) will normally prepare and present to the listing agent your Offer to Purchase which becomes the Agreement of Purchase and Sale when it is finally accepted. You should discuss the terms of the Offer with your lawyer prior to signing it.

For most people, price is the major consideration.

You may be willing to pay any price so long as you end up owning your dream home, but if you view it as a major investment, you will want to ascertain its approximate fair market value and hopefully negotiate a good deal up to a fixed price which you have decided not to exceed. Some people keep submitting offers on different houses and hold out until they can

negotiate a good investment; others are content to submit an offer at the vendor's asking price in order to get the house they want. It is not uncommon for the vendor to list the house for sale at a price in excess of what he expects to receive. If the fair market value is difficult to ascertain, you can obtain an appraisal through your real estate agent usually based upon the sale prices of similar specific houses recently sold. A more precise valuation opinion may be given by an experienced certified residential appraiser, or, if that house or similar houses were recently sold, your lawyer can sub-search title to find out the purchase price set out in the Land Transfer Tax Affidavit contained in its registered deed.

Negotiating the price is not necessarily the most significant aspect of the deal. Often the financial arrangements are crucial.

The Significance of Mortgages

If life were just a bowl of cherries, you might simply pay cash for the entire purchase price. Normally, however, you will require mortgage financing. You may assume the existing mortgages, or arrange new mortgages or give a mortgage back to the vendor.

If an existing mortgage contains a provision preventing it from being prepaid before

the end of the term, the vendor will want you to assume it.

Many mortgages do not permit any right of prepayment; some allow prepayment only to the extent that a bonus of three months interest is paid upon the amount of principal prepaid. Some institutional first mortgages allow 10 per cent of the principal to be prepaid on any anniversary date without notice or bonus. Often second mortgages and some first mortgages allow all or any part of the principal to be prepaid at any time without notice or bonus.

If the existing mortgage is attractive, you can avoid substantial expenses by assuming it. On the other hand, some mortgages are not transferable to a new purchaser. Often the purchaser will want to assume at least the first mortgage so long as the principal amount is large enough and a major portion of the original term has yet to run. If the interest rate of the existing mortgage is low compared to current interest rates, the mortgage may be particularly attractive.

If you are assuming a construction mortgage on a new house, you can also expect to find a clause in the builder's form of Offer requiring you to provide additional funds by way of a deposit on closing, as an estimate of the interest on the unadvanced portion of the mortgage funds. Often the mortgage company will not have advanced the entire

mortgage proceeds to the builder by the closing date, even though the house may be completed. Since the builder will not have received payment in full on closing, he charges the purchaser interest at the mortgage rate on the unadvanced portion of the mortgage until he receives payment in full. The purchaser must also make the regular monthly mortgage payment when due. Once all mortgage proceeds have been received by the vendor, the deposit will be adjusted. The builder's form of Offer may also contain a clause preventing the purchaser from selling or mortgaging the property until the vendor is paid in full.

The builder's form of Offer will normally require the purchaser to assign an Assumption Agreement whereby the purchaser agrees with the mortgagee to pay the principal and interest and comply with the terms of the mortgage. The Assumption Agreement may also amend the terms contained in the registered mortgage so that they comply with the terms set out in the Offer. The purchaser is required to sign such other documents as may be required by the mortgagee and the Offer is made conditional by the vendor upon approval of the purchaser by the mortgagee.

If you have to arrange your own mortgage, there will usually be appraisal and legal costs, and possibly the cost of a recent survey. If you cannot arrange a mortgage with a lending institution or a friend, you may have to pay a brokerage fee. If the mortgage will constitute a high proportion of the purchase price, the new mortgagee may also require a purchaser to pay the cost of mortgage insurance which may amount to 1 per cent of the principal of the mortgage. This often applies where a high ratio mortgage on a newly built house is assumed by the purchaser. The mortgage insurance reimburses the mortgagee in the event the purchaser defaults on the mortgage.

If you will be arranging a new mortgage, the Offer should be made conditional upon your obtaining a new mortgage upon specified terms within a reasonable period, such as 15 days from the date of acceptance. Once the Offer is accepted, you should expeditiously fill out the new mortgagee's application form in order to obtain a commitment letter within the conditional period. When arranging a new mortgage, you should request that your own lawyer be instructed to handle the legal work on behalf of the mortgagee since this can involve a substantial saving.

If the vendor is taking back a first or second mortgage, the interest rate will often be slightly lower than the going rate. Often the mortgage term will be restricted to a one or two year term. Usually the vendor will be willing to allow you to prepay a second

mortgage at any time without notice or bonus; however, the vendor may have taken a mortgage back only for the purpose of facilitating the sale to you. In the event the vendor has to sell the mortgage at a discount, he will prefer to obtain market interest rates and to avoid the prepayment clauses.

If the term of the existing first mortgage will expire before the end of the term of a new second mortgage back to the vendor, a clause should be inserted in the Offer permitting you to renew or replace the existing first mortgage at the end of its term. Any excess of principal of the new first mortgage over the amount of principal owing at the end of the term of the existing first mortgage will be applied to reduce the principal owing on the second mortgage. The vendor would also be required to sign any postponement agreement necessary to give effect to that provision.

Special Clauses

A clause can be inserted in the Offer stating that the vendor will discharge any other mortgages, liens or encumbrances affecting the property at his own expense before closing.

If you must sell your old house to obtain the proceeds to buy the new house, you may wish to make the Offer conditional upon sale of the old house within a specified period of time. Otherwise, you may be stuck with two houses and have to obtain bridge financing from your bank for the financing of the new house. Obviously, the vendor would rather receive a firm Offer but often the vendor will agree to a conditional Offer on the basis that he may continue to list the house for sale. If the vendor receives an acceptable new Offer from a third party, the vendor may then require you to choose within a limited period of time whether you will buy the house on the basis of your original Offer. If you have decided that you absolutely must have that house, you may decide to take the risk of selling your old house.

When buying an older house, which has been renovated, or a boarding house, you may wish to insert a condition in the Offer permitting you to send the municipal fire and building inspectors to inspect the house, to ascertain whether it is in breach of the municipal by-laws. If so, the vendor should be required to pay the cost of rectifying those work orders. The vendor should also authorize the inspectors to disclose such work orders to you.

Prior to submitting an Offer, you may decide to hire a contractor to complete a thorough inspection of the house to ensure that it is soundly constructed and to minimize potential repairs.

If you will be using the house other than

as a single family dwelling, the zoning clause should clearly indicate the proposed use you intend to make of the property. Many a house with a basement apartment or used as a commercial office is in breach of the zoning by-laws and may at one point be required to revert to the appropriate zoned use.

If you intend to change the present zoning of the property, the Offer may be made conditional upon a successful re-zoning application being completed by a certain date with the vendor's consent and support of the zoning application.

Most standard Offers contain a clause providing that the Offer will be effective only if the subdivision control provisions of The Planning Act have been complied with and providing that the vendor will proceed diligently at his own expense to obtain any necessary consent to a severance of the property before the closing date. Various clauses can be negotiated pertaining to the manner in which severances will be handled.

You may wish to make the Offer conditional upon obtaining a building permit or acquiring an adjacent parcel of property.

Purchase of a New House

If you are purchasing a new house, the builder's form of Offer will often contain a schedule of specifications and items contained in the purchase price. You should carefully list and specify the materials, colours, brand names and models of the various items which are to be included in the purchase price. The builder's Offer may contain a list of non-negotiable building restrictions which you should review carefully. Sometimes you will be required to pay the cost of installation of the water and hydro meters. Usually the vendor will require you not to alter the grading of the property, as required by the Development Agreement entered into with the Municipality.

Normally a builder's form of Offer will contain a clause stating that if the vendor is unable to complete the building on or before the closing date for reasons beyond his control, the closing date shall be extended a certain number of days. If the vendor is unable to substantially complete the construction of the house within the extended period of time, the purchaser becomes entitled to terminate the Agreement and to have his deposit repaid without interest or deduction. Usually if the house is substantially completed by the closing date or within the extended closing period, the purchaser is required to take possession of the premises and the vendor is required to complete the unfinished work within a reasonable period of time. You may be able to negotiate a hold back of funds until all work is completed.

When buying a new house, you should request a builder's guarantee that the house will be built in a good and workmanlike manner in accordance with the plans and specifications, using good quality materials and that the builder will correct any defects of which you may notify him within a certain period, at his own expense. Builders of new houses in Ontario are required to register under the HUDAC New Home Warranty Programme which establishes a one year warranty for workmanship and materials and a five-year warranty for major structural defects. The HUDAC New Home Warranty Programme also guarantees repayment of a purchaser's deposit up to the amount of \$20,000 if the builder is obligated to repay the deposit and fails to do so. You may wish to consider obtaining references from the builder so that you can find out whether other purchasers are happy with the builder's workmanship.

The Offer should contain a clear description of the property including its municipal address, the legal description and the frontage and depth. The garage and other structures should be referred to and mutual driveways or other easements and encumbrances should be set out.

Title Restrictions

In most standard form Offers, the purchaser is required to accept any registered restrictions or covenants that run with the land as long as they are complied with. Since you will not know what those restrictions, if any, consist of until the title is searched, you may wish to instruct your lawyer to delete the portion of the clause referring to registered restrictions. If the vendor insists upon that clause remaining in the Offer, you may wish to have your lawyer subsearch title to the property to clarify what they are.

The Offer contains a clause that the title to the property will be good and free from all encumbrances except any specifically listed in the Offer, and except for any registered restrictions and covenants that run with the land provided they are complied with and except for any minor easements for the supply of domestic utility services to the property. The offer also contains a clause allowing a number of days after acceptance of the Offer or after all conditions are removed to examine the title to the property, to search for outstanding work orders, and to confirm that the zoning may be lawfully continued and that the principal building may be insured against risk of fire. Be sure to establish a requisition date which leaves your lawyer plenty of time (ie. at least 30 days if that is reasonable under the circumstances) so that he may complete those searches. If your lawyer requisitions correction of defects which the vendor is unable

or unwilling to satisfy and which you will not waive, the Agreement of Purchase and Sale will be terminated and your deposit will be returned without interest or deduction. You are deemed to accept the vendor's title to the property unless your lawyer submits valid objections in time.

Signed Sealed and Delivered

Choose a closing date which coincides with the sale of your old house or which allows sufficient notice to be given to your landlord (normally 60 days written notice before the end of your lease). If you give up your apartment before the end of your lease, you can be liable for rent to the end of the term, subject to the landlord's obligation to mitigate his damages by trying to find another tenant. The landlord may not unreasonably refuse the new tenant if you pay the landlord's reasonable administrative fee.

Be sure to specify each of the fixtures and chattels which are to be included in the purchase price. Don't just assume that the built-in oven comes with the house. Sometimes the vendor can be persuaded to throw in an unlisted washer and dryer so that the purchase price becomes easier for you to bear.

Most forms of Agreement of Purchase and Sale contain other standard clauses which you should review. Your situation may require some of them to be amended. One such provision states that there is no other representation, warranty, collateral agreement or condition affecting the Agreement or the property except as expressed therein in writing. As a result, you should ensure that any important matter is referred to in the Offer.

Once you are satisfied with the Offer, you will date it and sign it under seal before a witness. The Offer will contain an irrevocable date, usually several days after signing, during which period of time the vendor will accept your Offer as is. Your real estate agent will present your offer to the listing agent who will discuss it with the vendor. If the vendor amends the terms and signs back the Offer, it is made irrevocable by the vendor for a further period of time. Once all terms are agreed to and initialled, and a completed copy of the Offer is delivered to you, a binding Agreement of Purchase and Sale is created. Your agent will ask you to acknowledge receipt of a completed copy of the Agreement and to designate the name, address and phone number of your lawyer. A copy of the Agreement will be forwarded to your lawyer.

Mr. Gardiner is a lawyer practising in Toronto. This article is a brief summary of a complex topic and the writer and publisher disclaim liability for any use of information contained in this article. All information in this article is based upon the laws of Ontario. Mr. Gardiner writes regularly for Toronto Business magazine.

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PERIODONTICS

TREATMENT OF JUVENILE PERIODONTITIS

Murray Arlin, DDS, FRCD(C)

Juvenile periodontitis (J.P.) has been described as a specific infection causing rapid loss of alveolar bone around one or more teeth in an otherwise healthy adolescent. Clinical features include: (a) circumpubertal onset (b) minimal plaque and calculus deposits (c) rapid localized or generalized bone loss (d) mobility (e) migration (f) often bilateral mirror image osseous defects (g) familial pattern of inheritance (h) higher incidence in black females.

Although the precise etiology and pathogenesis are as yet unknown, much has been recently learned. Juvenile periodontitis disease sites demonstrate a "unique microflora" that has been classified as five groups of gram negative anaerobic rods. Most notable is the organism "Actinobacillus actinomycetemcomitans" (or A.a.). Additionally, many of these patients exhibit defects in their immune system, specifically in lymphocyte transformation as well as P.M.N. chemotaxis and phagocytosis.¹ Although there are theories which attempt to explain the often localized and symmetrical pattern of bone loss and relative lack of inflammation, much is still to be learned.

Today we have evidence to suggest that treatment of J.P. should consist of a prescription of Tetracycline 250 mg. Q.I.D. for three weeks in order to eradicate the A.a. organism, in conjunction with local therapy.² The various treatment modalities may include one or more of the following: scaling and root planing, closed and/or open curettage, occlusal adjustment, active and/or passive tooth movement, osseous surgery, osseous grafting, dental autotransplantation and strategic extraction.

A treatment decision must of course be based on an accurate diagnosis and treatment plan. It is not within the scope of this article however to cover this exhaustively, but rather to demonstrate some examples of various treatment modalities performed on a single patient that has to date been followed over a seven-year period and was

initially reported in the Journal of the Canadian Dental Association in 1981.³

The initial examination and diagnosis was carried out in September 1978 and treatment was initiated shortly thereafter. Initial therapy consisted of oral hygiene instruction, scaling and root planing, and systemic Tetracycline. Although treatment of the teeth to be described (1.6, 2.6, and 4.6) was carried out concomitantly, the

treatment and follow-up of each tooth is illustrated and described separately.

Tooth 4.6: The osseous defect as visualized during periodontal surgery was extremely deep and it was decided to carry out an osseous grafting procedure (Fig. 1, 2). (The rationale and selection of osseous grafts is not within the scope of this article but interested readers are referred to the Thesis of the author, 1977 located at

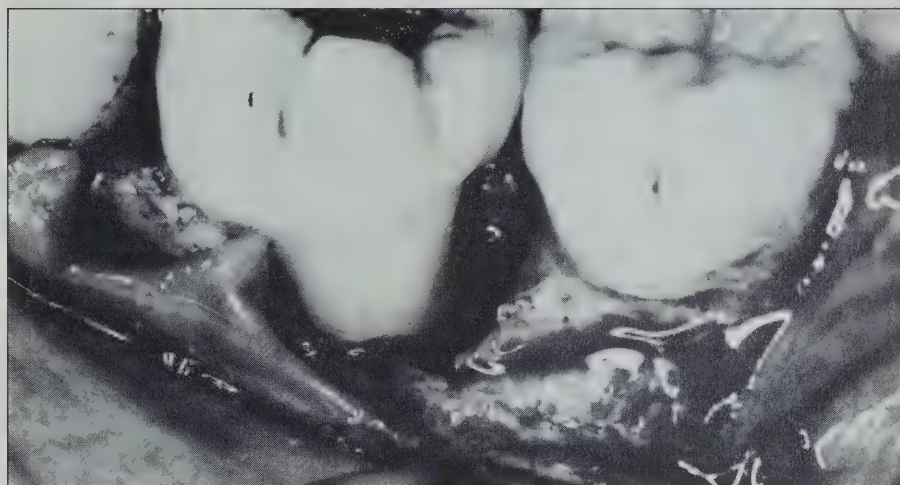


Fig. 1. Tooth #46 — deep osseous defect. Mirror image view.



Fig. 2. Tooth #46 — after placement of decalcified freeze-dried osseous allograft. Mirror image view.

the University of Toronto Dental Library.) Comparison of the initial and subsequent radiographs over a period of seven years reveal the gradual improvement over time (Fig. 3, 4). These radiographs demonstrate the initial, and post-osseous grafting healing periods at six weeks, six months, one year and seven years. It is important to note that a minimum of two years is required prior to assessment of repair when dealing with osseous grafts.

In addition to the osseous graft, passive

eruption was encouraged by periodically relieving the occlusal contacts. This was done because when a tooth erupts, the alveolus usually accompanies the root occlusally, which can have the effect of "levelling out" a crater or angular bony defect.

Tooth 2.6: Bone loss was so extensive that extraction was the only feasible treatment. At the same appointment, however, the extraction socket functioned as the recipient site for the autogenous transplan-

tation of the unerupted 2.8. After three weeks of nonrigid stabilization with the tooth in infraocclusion, routine maintenance therapy ensued. Examination of sequential radiographs over a seven year period revealed osseous regeneration as well as root development. Additionally, clinical post-op views at six weeks and seven years (Fig. 5) clearly demonstrate how the tooth erupted into occlusion. At present the tooth is functioning without signs or symptoms of pathology.

Tooth 1.6: Periodontal surgery revealed extensive bone loss that was not amenable to osseous grafting. The decision was made to attempt to maintain the tooth as a biological space maintainer over the short term. Regular recall visits and good home care were successful in maintaining the tooth over a three-year period. Due to the persistent sensitivity on the 1.6 and extreme satisfaction with the auto-transplant (that by this time had already been comfortably functioning for 18 months in place of the 2.6 position), it was decided that the 1.6 should be extracted and replaced with the auto-transplant 1.8 (Fig. 7) (Note the longer root length on the 1.8 (Fig. 7) as compared to the 2.8 (Fig. 6) which was transplanted 18 months earlier). Healing was uneventful until an endodontic fistula developed two and a half years later. Endodontic treatment failed and the tooth had to be removed (Fig. 8). Note the root development and apexification that occurred following the transplantation over a two and a half year period (compare Fig. 8 to 7). It should also be mentioned that although the 1.6 and 1.8 were lost, they did function as excellent

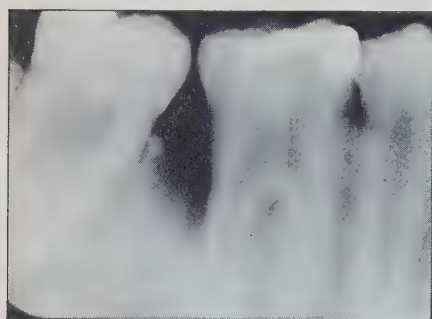
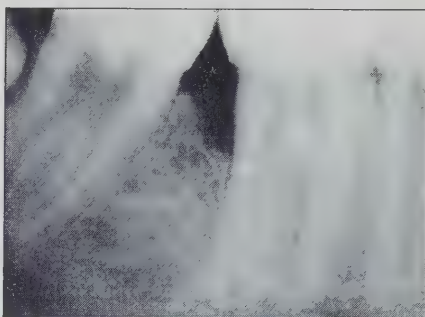
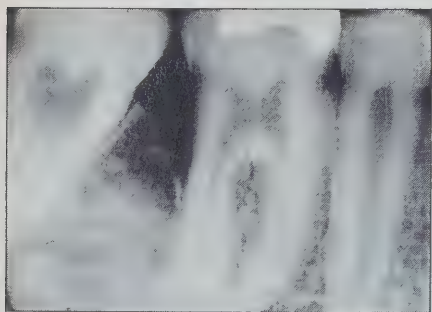


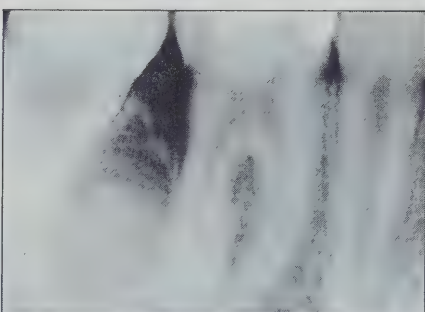
Fig. 3. Tooth #46 (i) Initial defect



(ii) 6 weeks after osseous graft



(iii) 6 months after osseous graft



(iv) 1 year after osseous graft



Fig. 5. Tooth #28 — 6 months after transplantation/7 years after transplantation.

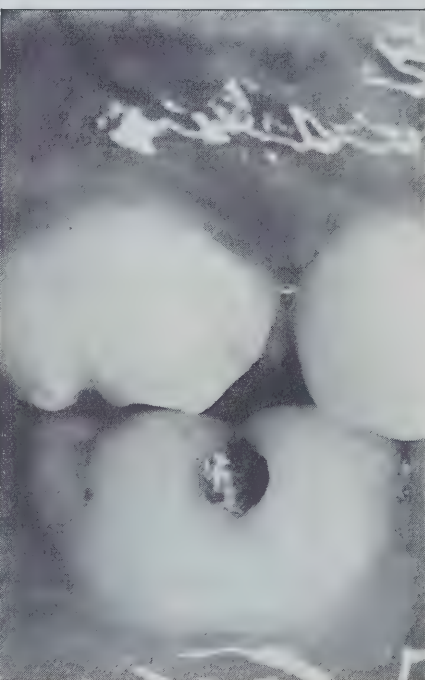


Fig. 4. Tooth #46 — 7 years after osseous grafting

biological space maintainers for five and a half years.

Discussion:

This current report updates the developments concerning the transplanted tooth #28 initially reported by Arlin and Freeman in 1981³. As well, the treatment of the teeth #46 treated with an osseous graft, and the autotransplantation of #18 into the #16 extraction socket, is described.

Perhaps the two most striking features of J.P. are that (a) the periodontal attachment loss is commonly localized to the incisors, and mesial aspects of first molars, and (b) the extent of the destruction usually seems incommensurate with the (clinically evident) quantity of local factors and inflammation. One could hypothesize however that if this "specific infection" took place at the time when the first molars and incisors were erupting into the oral cavity, the ensuing development of an immune host response and/or subsequent establishment of bacterial antagonists and/or "burnout", would result in the subsequently erupting teeth being immune to this specific "infection" process. The plaque-retentive type of dental anatomy usually found on the mesial aspects of first molars might explain the predilection of this area to exhibit the most extensive attachment loss. The apparent absence of clinical inflammation and local factors led earlier investigators to hypothesize that J.P. was a dystrophic, and not an inflammatory disease. Recent investigations, however, have conclusively demonstrated that there does exist a sparse but virulent subgingival microbiota associated

with inflammation deeper within the pocket wall¹. Osseous repair is possible if inflammation and infection are controlled.⁴

Various modalities for the treatment of J.P. have been reported in the literature. Systemic tetracycline taken for three weeks may eradicate the pathogenic microbiota of J.P.² and should be routinely prescribed for these patients. Osseous grafting into J.P. lesions⁵ and eruption of affected teeth to achieve a modification of the osseous architecture has also been described⁶.

Baer and Gamble initially described transplantation of developing third molars in the sockets of first molars affected by J.P. Some cases demonstrated continued root development and eruption over a period of time following transplantation. The transplantation process in particular raises many interesting questions, for example, following transplantation what factors influence pulpal vitality, root development, tooth eruption, osseous regeneration and reformation of a functional periodontal ligament?

Histologically speaking, it is "Hertwig's Epithelial Root Sheath" that is necessary for root development and it is the "DENTAL FOLLICLE" that gives rise to the formation of cementum, periodontal ligament and bone⁸. It seems reasonable therefore that atraumatic surgery to protect the transplanted tooth is indicated in order to promote continued root development and regeneration of the periodontal attachment apparatus. Clinically, it has been found that vitality can be expected when the transplanted teeth exhibit open apices and that ankylosis can be minimized or eliminated if post-surgical stabilization is non rigid⁹.

Although it is not within the scope of this article to discuss all aspects of tooth transplantation, some clinical guidelines of dental auto-transplantation are listed below.

Principles of Atraumatic Surgery:

- absence of acute inflammation at the recipient site
- minimize time of extraalveolar exposure of the transplant
- protect the soft tissues attached to the transplant
- remove interadicular bone at the recipient site to assure a passive placement of the transplant
- place transplant in infraocclusion
- non-rigid stabilization for 2-4 weeks
- prophylactic antibiotics.

Endodontic Considerations:

- transplant teeth with open apices without undertaking prophylactic endodontic therapy
- institute interceptive endodontic therapy when signs of pulpal necrosis and/or inflammatory resorption is diagnosed.

Signs of Transplant Ankylosis (Replacement Resorption):

- immobile transplant
- "high" percussion sound
- no eruption
- no periodontal ligament radiographically.

Signs of Transplant Inflammatory Resorption:

- pulpal necrosis
- mobility

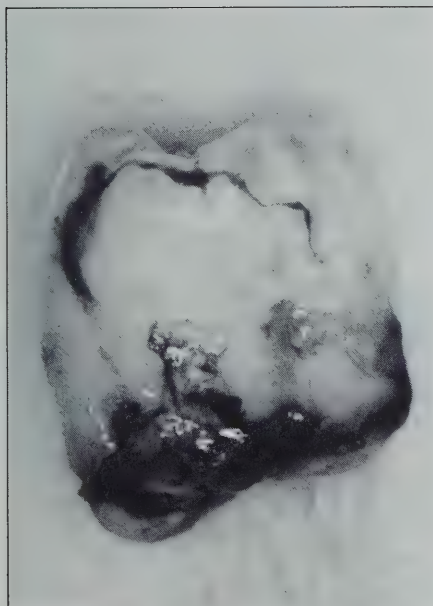


Fig. 6. Tooth #28 — immediately after removal: (compare stage root development to Fig. 7 illustrating #18 done 1 1/2 years later).

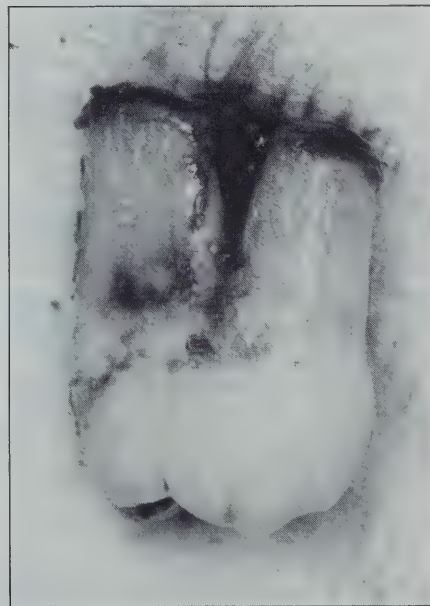


Fig. 7. Tooth #18 — immediately after removal (1 1/2 years after the 28 was removed, also compare to Fig. 8 illustrating #18 2 1/2 years post transplantation).

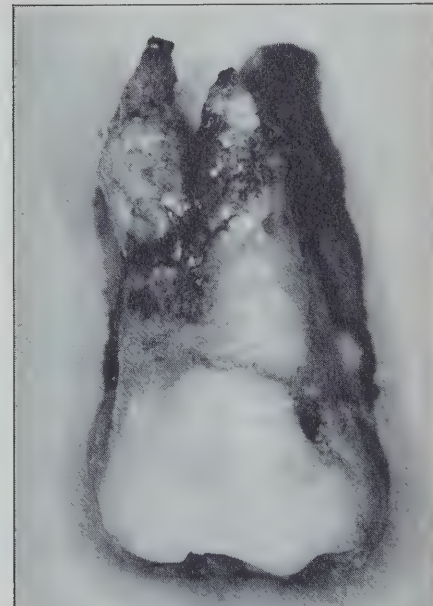


Fig. 8. Tooth #18 — immediately after extraction (2 1/2 years following its transplantation — compare to Fig. 7).

- extrusion
- percussion sensitive
- resorption cavities radiographically

Summary:

Treatment was initiated in 1978 at which time the patient was 16 years of age. This report presents seven-year results utilizing various treatment modalities on a single patient afflicted with JP. The therapeutic result was excellent with the 4.6 and 2.8. The lower molar would seem to have a very good long term prognosis, while the long term fate of 2.8 is somewhat questionable. Even in the event that 2.8 is lost, the treatment of the 2.6 and 1.6 areas can be considered successful. Functioning as good biological space maintainers, the third molars have delayed the need for prosthetic treatment in an adolescent, at a time when prosthetic treatment would have been less than ideal.

Dr. Arlin presented this information in a table clinic at the Academy of General Dentistry Winter Clinic in Toronto in November 1985. He is a periodontist in private practice in Weston, Ontario.

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Introduction by, G.S.Beagrie, DSc, DDS, FDSRCS, FRCD(C), FACD, FICD

(This introduction by Dr. George Beagrie, Dean, Faculty of Dentistry, University of British Columbia, did not make the press deadline for the May edition.)

Introduction

Monsieur le Président, Mesdames et Messieurs. Il me fait un grand plaisir ce matin de vous souhaiter la bienvenue dans cette belle ville de Montréal.

I particularly wish to welcome and thank our visitors from Switzerland (Dr. Barmes), U.S.A. (Dr. Goldhaber), Denmark (Dr. Moore), and our non-dental colleagues, Dr. Wilson (Queen's University), Dr. Ianni (University of Windsor) and Mr. Wilton (Niagara Institute).

Let me start with a few quotations from dental educators held in high regard around the world.

"Dentists trained to restore any tooth showing the slightest evidence of caries still make up the majority of practitioners and despite postgraduate updating it is not unreasonable to assume that many such people will continue to practice in the manner in which they were originally taught," so says Prof. John Bulman in the World Health Forum of 1984.

"Twenty years ago, the 'best dentists' were those who probed for early carious lesions, particularly those not visible in the interproximal areas, using a sharp probe. Every detected microlesion would then be

'prophylactically drilled and filled.' That was what we were taught! Today that diagnostic procedure would almost be regarded as grounds for malpractice. Initial enamel carious lesions can be maintained for years or can even be remineralised and 'repaired' using preventive measures. During an examination, if such an initial enamel carious lesion is damaged with a probe point and a hole is made, bacteria will enter and the dental caries progresses."

Prof. Hans Muhlemann, "Conclusions after 30 years of Dentistry" (1984)

"Some sensible, though very painful steps require to be taken immediately if we are to meet the challenges of the future. A start must be made toward educating the dentist to meet future challenges of practice rather than those of the past. Clinical licensure examinations must be made to test skills that will be useful in the future rather than those that have been useful in the past. The educational system must be modified to achieve a better equation between the number of graduating dentists and the future need for services. A realistic system must be devised for re-educating dentists at mid-career."

Dr. Hein, Director, Forsyth Centre, Boston

"Professions exist to satisfy social needs or aspirations. They need to readjust themselves continually to changes in technology, in professional outlook and in the needs and demands of society.

Any comprehensive aim of dental educa-

tion should reflect the interests of both the profession and society. But society is a community of individual people. It is not a community of oral cavities and certainly not a community of teeth."

*Prof. G.N. Davies,
University of Queensland, Australia*

Prof. Taco Pilot, of the Netherlands, in "Community Dental Health 1985" said: "The challenge to the profession. . . will be:

- to convert unmet need into demand for services;
 - to find a balance between attractive working conditions, the provision of good care and the demands and priorities of the public.
- The challenge to universities and dental educators will be:
- to prepare students for a professional life that will differ dramatically from that which we know today;
 - to provide the community with professionals who are able to adapt to change, to educate themselves throughout professional life, and possibly even to change to another profession."

Changes in dental caries patterns are much in evidence and the effect of this has been to alter the everyday work of dental practices. Thus, in clinical terms, for young adults and children fewer teeth are being extracted, fewer teeth need simple restorative care and there is less need for major prosthodontics. However, in the older groups there is an apparent increased need

for rehabilitation, periodontics, preventive dentistry, orthodontics and for all groups of people intelligent patient counselling is essential. It is imperative that such perceived changes in professional care be reflected in the education of future dentists and in related curriculum alterations. Dental technology has been revolutionized in the last two decades. To the time honoured reparative skills, diagnostic, preventive and communication skills must be added. Dragging behind the recognizable changes within the profession are the required alterations in the community's thinking and perception of what constitutes modern dentistry.

Preparing for the future

The focus of dentistry must be broadened and in this broadening, undergraduate dental education must include what in the past has been regarded as advanced training for specialty programs only. There is no doubt that a start has been made in this but it is only a start. In the words of Paul Goldhaber, one of our Conference speakers "dentists are overtrained for what they do and under-trained for what they could do."

A few countries have taken up the challenge of examining future educational needs, but within the present framework of undergraduate programs there is little room to move and expand. It would seem therefore that within Canada the time is now ripe to devise some mechanism by which universities would be better able to educate future dental students, and provide them with a wider knowledge of oral biology. They would then be in a better position to assess clinical problems in a scientific manner.

The United Kingdom examined the possibility of a prelicensure year. The United States, in the development of the A.D.A. document "Future of Dentistry", has suggested a similar approach.

Sweden has in recent times introduced in their undergraduate program a prelicensure year which is called a "P.D.S. Clinic". Under the supervision of a specialized counsellor, examinations are taken to provide an appropriate measurement of the individual for general practice. The pre-registration year has been accommodated in public dental service clinics and trainees are looked after and examined by people with a public dental service background. They are tested at the university on the completion of their year of service and more will be heard of that from Dr. Moore.

It is amazing to look at the 1953 Proceedings of the C.D.A. Council on Education and see that a prelicensure year in dentistry was proposed at that time. Far from addressing a new problem, this conference might be considered "timely" in as much as it has only taken 33 years to get here!!

PLAN UPDATE

OFFICE CONTENTS AND PRACTICE INTERRUPTION – AUTOMATIC INCREASE

In previous years, the Canadian Dentists' Insurance Program (CDIP) has offered an automatic increase in Office Contents and Practice Interruption Insurance on July 1st, to help participants keep pace with inflation.

In response to requests from participants, and to decrease administration costs, the procedure will be changed for 1986. The increase will be postponed to January 1, 1987. The invoice for January 1987 will show a percentage increase in Office Contents and Practice Interruption coverage.

Participants will, of course, have the option of refusing this automatic increase at that time if they do not require the coverage.

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*Principles of aetiology and pathogenesis governing the treatment of periodontal disease—Dr. Harald Löe, Director, National Institute of Dental Research

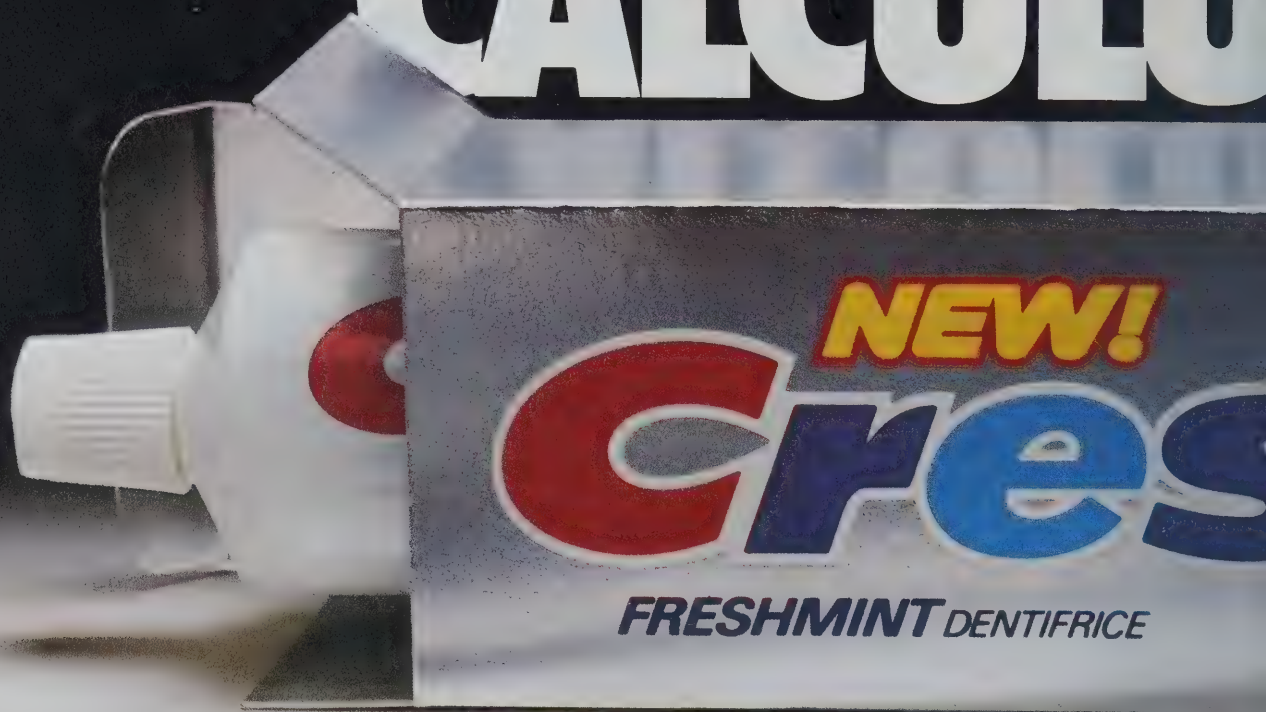


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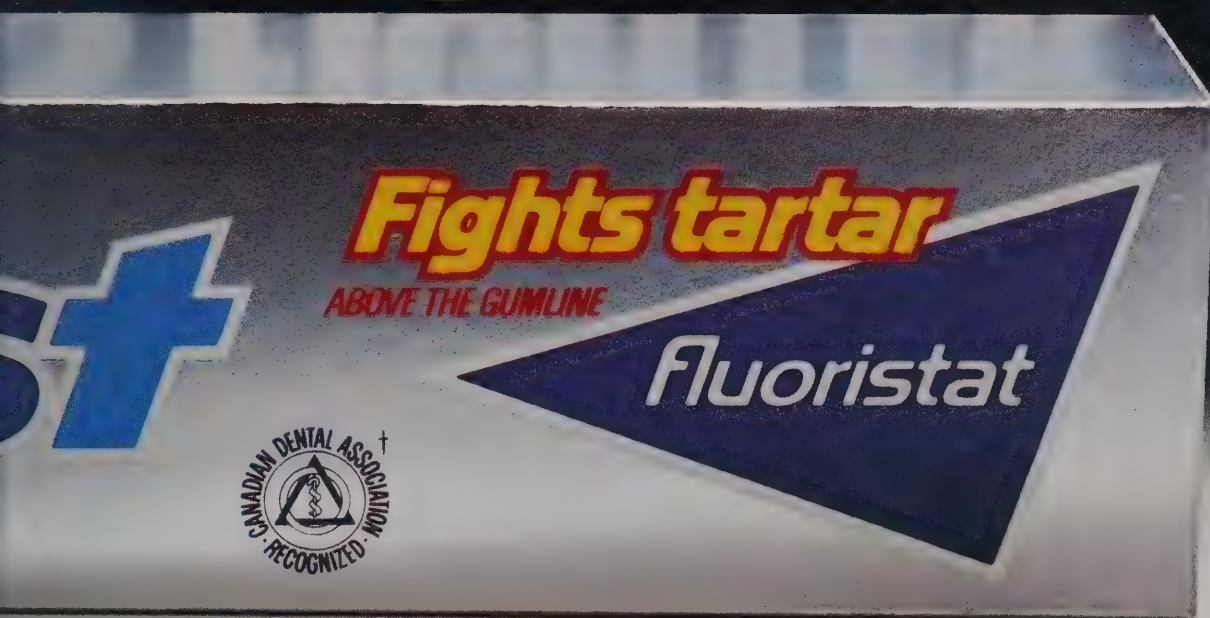
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Specialty Features

THE HARVARD EXPERIENCE

Dr. Paul Goldhaber, Dean,
Harvard School of Dental Medicine,
Boston, Mass.

BACKGROUND

Fifteen years ago, as part of a symposium on curriculum change, I stated, "If I had to describe the dental educator's dilemma in one sentence it would simply be, 'Most dentists are over-educated for what they do and under-educated for what they ought to be doing.'"¹ This statement appeared to touch a responsive chord amongst many dental educators and was widely quoted in the United States and abroad.

What I was concerned about was that most general practitioners seemed to limit their services to restorative dentistry and tended to refer out most, if not all, of their oral surgery, periodontics, pedodontics, endodontics and orthodontics. I anticipated that ancillary personnel, under the supervision of a highly educated dentist, would inevitably perform a number of dental services that do not require the *direct* participation of a dentist. I envisioned that greater use of auxiliaries would free up a significant number of dentists who "must then be able to concentrate their efforts on the other end of the dental practice spectrum, where more sophisticated knowledge and skills are required. . . ."

I went on to say, "We must anticipate that this group will include new breeds of dentists: diagnosticians, using various electronic and biologic tests not yet invented; surgeons, using surgical procedures unheard of today; and chemotherapists using pharmacological and immunological approaches not yet discov-

ered, in order to prevent and treat oro-facial disease. The intricacies of growth and development will continue to become more complicated, and those who would prevent or treat oro-facial deformities will have to be experts in such areas as growth and development, psychology, molecular genetics, computer science, and radiology. I do not believe that these statements are the results of mere idle speculation. By the year 2000, all this, and far more, will be a reality."

Clearly, at that time, few schools in the United States seemed to be concerned with expanding or broadening dental education. The craze then was to reduce the length of the dental curriculum to three years. Whether this course of action was based primarily on principle or principal, I leave to your judgment. Was it a coincidence that 16 of 58 dental schools in the United States switched to a three-year curriculum soon after the federal government announced that it would offer dental schools a bonus in addition to capitation funds if they would shorten their dental curriculum time from four years to three years? Harvard's attitude regarding this issue was expressed succinctly in the final paragraph of my 1971 curriculum paper:

"The fact that change is inevitable does not mean that we should be passive and fatalistic about the future. It is our duty as educators to decide what the dentist of the future ought to be and then work towards preparing the student for that goal. I do not believe that shortening the four-year curriculum per se should be our aim. At Harvard we are

condensing some aspects of our curriculum and freeing up the fourth year, not for the purpose of having our students graduate in three years, but in order to make room for other new and stimulating experiences which will be of value to them in their future aims. The dentist of the future will not require less education than today. Indeed, he will require more — that is, if he wants to be the leader of the oral health team."

Let me say that Harvard's philosophy today has not changed.

MISSION OF THE HARVARD SCHOOL OF DENTAL MEDICINE

Before reviewing some of the curriculum changes developed at Harvard during the past 15 years, it is important to point out the mission of our School. Our predoctoral and postdoctoral programs are designed to contribute to the development of clinical scholars or scholarly clinicians who, in addition to being competent clinicians, can:

1. develop and teach the new biomedical knowledge needed in dentistry;
2. interact effectively with their medical colleagues in hospitals and other systems of comprehensive health care; and
3. represent dentistry ably in the public policy debates and decisions which are shaping the future of the profession.

PRINCIPAL RESOURCES AVAILABLE TO ACCOMPLISH MISSION

The principal resources available to the Harvard School of Dental Medicine in

accomplishing its goals and objectives are:

1. an outstanding intellectual environment;
2. a small class size and highly motivated students;
3. a long and continuing tradition of educational innovation;
4. a mandatory five-year predoctoral curriculum allowing additional time for educational opportunities beyond the traditional subjects taught in a four-year curriculum; and
5. accredited postdoctoral programs in all recognized clinical specialty fields (including general dentistry), most of which contain one or more additional mandatory years for the purpose of carrying out biomedical research or pursuing a program in public health, public policy, or management.

Intellectual environment

The *intellectual environment* of the Dental School may be described best by pointing out some of the interactions we have had, and continue to have, with other components of Harvard University and nearby affiliated or collaborating institutions.

A. Interaction with Harvard Medical School

The Harvard Dental School, the first university-affiliated dental school in the United States (established 1867), has had a long and distinguished record of innovation in dental education. From the beginning, the Dental School had a close and special relationship to the Harvard Medical School and its teaching hospitals, and the two Schools (Dental and Medical) make up the Faculty of Medicine. In the 1940s, with strong support from President Conant, this relationship was intensified by the establishment of a new program which mandated that dental students and medical students take the same basic science courses together during the first two years of the program. This format continues today. In addition, all dental students take the Medical School course, "Introduction to Clinical Medicine," which gives them a unique opportunity to learn physical diagnosis and examination of the patient in small medical-dental student teams within a hospital environment. This course is a prerequisite for all medical clerkships that are taken subsequently during the medical or dental student's elective time or in a postdoctoral program.

This close interaction with the Medical School's basic science departments and with basic science and clinical faculty based at the Medical School's affiliated hospitals, plus the involvement of Dental School faculty and administrators on key Faculty of Medicine committees, has contributed to a unique and special relationship between the two Schools. The association has made

it easier to call upon faculty based at the Medical School or the teaching hospitals for collaboration with the Dental School in research or training, be it in the basic biomedical fields or in the various clinical sciences. Such requests continue to be met with full and enthusiastic cooperation.

B. Interaction with Harvard Teaching Hospitals

The School of Dental Medicine's close association with the Harvard teaching hospitals has developed through several levels of interaction. First of all, several of the Dental School's academic departments are based there. For example, the Department of Oral and Maxillofacial Surgery is situated at the Massachusetts General Hospital, while the Department of Pediatric Dentistry is in the Children's Hospital Medical Center. These departments are responsible for the training and education of their residents and postdoctoral fellows. In addition, the Harvard School of Dental Medicine students rotate through each of these departments on mandatory one-month dental clerkships. Secondly, many of the other Harvard teaching hospitals have Dental Services where Harvard predoctoral dental students and/or postdoctoral fellows train. Among this group are the Brigham & Women's Hospital, the Dana-Farber Cancer Institute, and Veterans Administration facilities at West Roxbury, Brockton, Bedford, Providence, Northampton and Boston. Harvard dental students must spend a clerkship of approximately three months at one of the VA hospitals. Twenty percent of the time there must be spent in non-dental activities, such as psychiatry, alcoholism clinics and clinical-pathological conferences.

Finally, it should also be noted that Harvard School of Dental Medicine faculty members at many hospital sites are engaged in basic and/or clinical research, thereby interacting with their medical colleagues and establishing a cooperative environment for collaborative studies.

C. Interaction with Harvard School of Public Health

During the past decade, the School of Dental Medicine has developed a much closer relationship with the Harvard School of Public Health, particularly when our postdoctoral fellows were given the option to become involved in biomedical research or pursue a degree in the School of Public Health to complement the clinical component of their postdoctoral programs. Among the various disciplines studied at the School of Public Health are epidemiology and biostatistics, subjects vital to the development of clinical investigators concerned

with studying oral diseases in the field or in the laboratory. However, the opportunities for course work and related biomedical research at the School of Public Health go beyond epidemiology and biostatistics. They include such fields as behavioral sciences, cancer and radiation biology, nutrition and toxicology. Members of those departments have served as research sponsors or on the thesis committees of postdoctoral fellows in our three- and four-year programs.

D. Interaction with Massachusetts Institute of Technology

Harvard University and the Massachusetts Institute of Technology have had a long and durable association with regard to collaborative research projects and teaching programs. The relationship has been particularly fruitful between M.I.T. and the Harvard Faculty of Medicine. One aspect of this linkage was formalized about a decade ago when Harvard University and the Massachusetts Institute of Technology established a Division of Health Sciences and Technology to focus science and technology on human health needs and integrate education for health and medicine into the graduate and undergraduate curricula of both universities. The Harvard-M.I.T. curriculum in the biomedical sciences is oriented toward students with a strong interest and background in quantitative science, especially the biological, physical, engineering and chemical sciences. Twenty-five students are admitted to the Division each year as candidates for the M.D. degree at Harvard Medical School. Students in the Division join students of the regular Harvard Medical curriculum in the clinical clerkships. Although the same opportunity is theoretically available to dental students, this track has not yet been used by our predoctoral dental students. The Dental School's interaction with M.I.T. has been primarily through our postdoctoral fellows who cross-register to take courses at M.I.T. and consult with M.I.T. faculty regarding their research projects. In addition, several recent postdoctoral fellows have had M.I.T. faculty members as research sponsors. Needless to say, the M.I.T. connection offers extraordinary opportunities for collaborative research, particularly in the fields of materials science and bioengineering.

E. Interaction with Forsyth Dental Center

A close relationship between the Harvard School of Dental Medicine and the Forsyth Dental Center has existed since 1954. It has proven to be important with regard to teaching and research, particularly in the area of oral biology. With few exceptions, For-

syth's staff members hold academic appointments at Harvard School of Dental Medicine and contribute to the teaching and research programs for both predoctoral and postdoctoral students. In addition, it is noteworthy that the Harvard School of Dental Medicine's Department of Orthodontics (predoctoral and postdoctoral) and Department of Endodontics (postdoctoral) are based at Forsyth. Forsyth's Periodontal Disease Research center and caries research programs, with their outstanding scientists and facilities, have been a favorite of many Dental School predoctoral and postdoctoral students for carrying out their required research training. Recently, the School of Dental Medicine has received a training grant in epidemiology from the National Institute of Dental Research which involves a unique collaboration between Harvard, Forsyth and the University of Connecticut.

Small Class Size and Innovative Programs

The small class size originated in the early 1940s when the Dental School underwent a major curriculum change and the number of students was decreased to 15 per year so that they could be accommodated in the basic science laboratories at the Medical School together with the medical students, taking the same basic science courses and examinations with their medical classmates during the entire first two years of their dental education. The original plan of having all Dental School graduates return to the Medical School for two additional years of medical clerkships and their M.D. degree was abandoned in 1954, due primarily to the fact that almost all the graduates who took the M.D. option went into medicine rather than dentistry. However, the combined classes in the preclinical basic science courses still continue for the dental students.

During the past 17 years, the entering class size gradually increased to approximately 20-22 students. The small class size has permitted us to take advantage of the numerous educational opportunities available at Harvard University and its environs. In this same period a number of *innovative postdoctoral programs* were introduced in response to our mission:

a four-year Doctor of Medical Sciences in Oral Biology to provide strong basic science training linked with clinical specialty training for dental teachers and researchers; a five-year Oral Surgery-M.D. program providing a sound background in medicine and general surgery (as well as oral surgery) for a new breed of oral surgeons; a new group of three- to four-year programs combining advanced clinical training and research in the area of Health Care Delivery

with courses leading to a Harvard degree in Public Health, Public Policy, or Business Administration.

In 1979 the School introduced a new five-year predoctoral curriculum which adds a year of biomedical research, or of training in public health and preventive dentistry to the intensive basic science and clinical instruction provided in the four-year D.M.D. program. Thus, whether H.S.D.M. graduates go on to postgraduate training at Harvard or elsewhere, they will have the background to make a continuing contribution to our knowledge of oral disease, and to practise dentistry as part of total health care. It should be noted that we strongly advocate postdoctoral education for all our students and it is rare that our graduates enter full-time practice immediately upon receipt of their D.M.D. degree.

The major curriculum change made in the past three years was the *implementation* of the five-year curriculum for our predoctoral program. Although the change was conceived in the late 1970s, it could not be initiated with classes already enrolled in the four-year program. Therefore, it was announced to all candidates considering our School for entrance in 1979 that, instead of graduating four years later, in 1983, this first class would be required to take a non-clinical fifth year and graduate in 1984. To date, we have had two years' experience with actually carrying out the fifth year of the curriculum *per se*. We are pleased with the results.

The reasons for making these changes were as follows:

1. If we were to develop leaders for dentistry, it was necessary to broaden the educational program beyond that which could be encompassed in a four-year program.
2. A conscious decision was made that the fifth year should not be devoted to improving clinical dentistry skills which can be accomplished readily by taking a dental residency program. Rather, it was felt that the additional time should be devoted to one of two major tracks, namely, biomedical research or health care delivery and research. The rationale for selecting these two options was that these were two of the most important areas where leadership and expertise were required for the future welfare of the public and for progress within the dental profession. Biomedical research is required to provide new approaches to the prevention and treatment of dental and oral diseases, while health care delivery and research encompasses new approaches to public health, health policy and management, and health care administration.
3. A third reason for introducing a fifth year into the curriculum was to screen out poten-

tial applicants to our School who have little or no aspiration for anything but a conventional dental career.

4. The concept of a mandatory additional year devoted to biomedical research or health care delivery and research had been introduced into most of our postdoctoral clinical specialty training programs a number of years previously (the additional biomedical research year was first introduced in 1957), and was so successful as a prototype that it helped prepare the way for duplication in the predoctoral program.

The general structure of the five-year curriculum and how it flows into the postdoctoral programs may be seen in Figure 1. It should be noted that during the first two years a number of Dental School courses, such as oral biology, oral pathology and oral radiology, are overlaid upon the Medical School's basic science program. At the end of the fourth year the student must decide whether or not he/she will apply for one of H.S.D.M.'s three- or four-year postdoctoral programs, or use the fifth year as a terminal year either in the Biomedical Research Track or in the Health Care Delivery and Research Track. Following a formal three- or four-year postdoctoral program at Harvard, there is an option for Harvard Dental School graduates to obtain the M.D. degree from the Harvard Medical School by taking an additional year of prescribed clinical medicine clerkships at the various Harvard teaching hospitals. To date, only the oral surgery postdoctoral program has taken advantage of this opportunity. By including 1½ years of general surgery residency training in their five-year oral surgery-M.D. program they have been able to produce a new breed of exquisitely trained oral surgeons who, by training and credentials, should be able to face the future with confidence. Hopefully, other clinical dentistry specialties at Harvard will follow oral surgery's example.

Thus far the School has graduated two classes under the new curriculum. It is interesting to note that the fifth year students have selected either the biomedical research track or the health care delivery and research track in about equal numbers. Most of the latter group have taken the Master's degree program in either public health or health policy and management at the School of Public Health. Several students have obtained the Master of Public Policy degree at the Kennedy School of Government. A few students have opted to take their fifth year out of sequence. One took his Master of Public Policy program during this third year, before his major clinical dentistry experience. Similarly, another student has finished most of her formal courses in her third year working towards her Ph.D.

degree at M.I.T.'s Sloan School of Management. Another group of students has used the fifth year to start a formal three- or four-year postdoctoral program at the Dental School combining biomedical research and a clinical specialty. These programs award either the Master or Doctor of Medical Sciences degree as well as a Certificate in the specific clinical specialty program.

I would be remiss if I failed to comment on a totally unanticipated educational experience shared by our fifth year students. You will recall that the formal curriculum of the terminal fifth year does not devote any time to clinical dentistry. Since some students were concerned that they might lose their clinical skills during the fifth year we planned to establish some voluntary evening clinics at the School so they could treat patients. We were also anxious to have our students complete their North East Regional Board Examinations at the end of their fourth year (rather than at the end of their fifth year) since they would have actually completed all their didactic and clinical

courses except for the mandatory non-clinical year Harvard demanded for the D.M.D. degree. After we petitioned the Board several times, they acceded to our request, provided we gave our students an "Interim Diploma" at the end of the fourth year. This was agreed to by the University and the students were allowed to take the examination towards the end of their fourth year. At this point, the Attorney General of the Commonwealth of Massachusetts stepped into the picture and ruled that if we gave our fourth year students an Interim Diploma, and if they were allowed to take the North East Regional Board Examinations, and if they passed the examination, and if they requested their licence to practise in Massachusetts, the licence would have to be issued. In other words, they would be allowed to *practise* dentistry legally in Massachusetts even though they did not have their D.M.D. degree from Harvard! This ruling caused us to pause for a moment, for it meant that the students could quit Harvard at the end of the fourth

year without completing the fifth year. However, we decided to go ahead, convinced that every student would stay the extra year to obtain the D.M.D. degree from Harvard. This has indeed turned out to be the case.

The fact that our fifth year students would have their licence to practise gave rise to a novel idea, why not set up a voluntary "Licensed Practitioner Clinic" at the School for the fifth year students patterned after our Faculty Group Practice? This would not only help maintain the students' clinical skills, but would allow each of them to generate some income based on their individual productivity. After two years' experience, with the program functioning two evenings per week and all day Saturday, we have concluded that the Licensed Practitioner Clinic has been, and continues to be, an extraordinary success. Apparently, the best incentive for students to learn practice management is for them to have a personal financial incentive in treating patients.

The Future

Curriculum change is a continuing process. Despite the gains we have made at Harvard over the years, we see room for further improvements. The challenge to our School for the very near future is to integrate our program during the first two years with the Medical School's "New Pathway," which is currently undergoing a trial run with one group of 25 medical students. This bold new approach to general medical education will encompass all medical and dental students within several years, and we have to make appropriate changes in the dental curriculum to take advantage of this new opportunity. Another area that we must augment is the dental students' clinical medicine experience, either by increasing their clinical medicine clerkships or by encouraging them to take the M.D. option after their specialty training in dentistry. We firmly believe that dentistry must come closer to medicine as health care delivery becomes more complex. Finally, we see the need for giving our students a significant international experience, preferably in a developing country. In this shrinking and diverse world, health care professionals have an obligation to learn more about different cultures and to use their talents to be of help.

Foremost in our minds is the need to prepare our students for an uncertain future. After all, *uncertainty* is the only thing we can predict with certainty.

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Harvard School of Dental Medicine Predoctoral and Postdoctoral Continuum

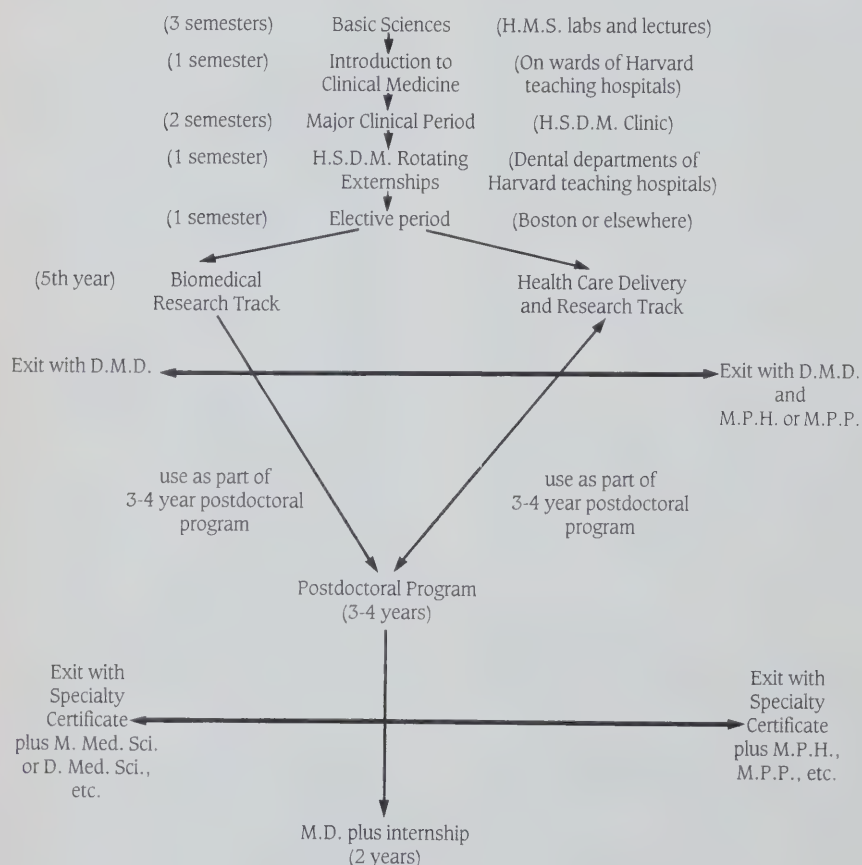


Figure 1

Specialty Features

A SWEDISH MODEL OF PRELICENSURE

GENERAL PRACTICE RESIDENCY

Rod Moore, DDS, MA

With the possibility of establishing a dental prelicensure practice residency in Canada, the study of previously developed prelicensure clinical education models seems appropriate. Presented here is a brief overview of the current dental educational structure in Sweden. The initial goals, structure and function of a recently instituted dental prelicensure residency program are also described. Evaluation of instructional goals and of the program itself are discussed, as well as the program's possibilities for fulfilling future Swedish dental educational aims.

Current Dental Educational Structure

Swedish dental students are usually selected from graduates of "gymnasium" or extended high school. The four Swedish dental colleges at Stockholm, Göteborg, Malmö, and Umeå are part of their local university structures. A nine-semester curriculum in the dental schools consists of four preclinical 18-week semesters followed by five clinical semesters. The curriculum, in general, is organized into four broad subject blocks: biology/medicine, pathology/diagnosis, prophylaxis and treatment, and community dentistry/ethics.

The preclinical curriculum consists of histology, embryology, general and dental

anatomy, physiology, genetics, biochemistry, microbiology, general medicine, pathology, introductory courses in laboratory techniques, and general dentistry and community dentistry. There is some variation among the schools in early contact with patients during the preclinical phase — a week of clinical prophylaxis, usually in the first semester, at Göteborg and five to six weeks in Stockholm during the first three semesters. Laboratory technology coursework begins in preclinical training and continues up to the fifth and sixth semesters of the clinical phase.

The last five semesters provide theoretical and clinical rotations in the clinical sciences — oral surgery, operative dentistry ("cariology"), periodontology, orthodontics, oral medicine and diagnosis, radiology, pedodontics, prosthodontics, and occlusal studies. The ninth and final term also includes dental emergency care, oto-rhino-laryngology, oncology, forensic dentistry and advanced courses in community dentistry. There are no clinical unit requirements beyond completion of clinical rotations. Comprehensive examinations in any given subject are given at various times of the year and are usually in written form. There may also be midterm examinations and laboratory practical tests at the discretion of course leaders.

The total of nine semesters in dental

school amount to 4½ years in duration. Until 1979, the curriculum was 10 semesters (5 years). The current 4½ year curriculum, which started in September 1979, is supplemented by a year of prelicensure general practice residency, "Allmäntjänstgöring" (AT) in the Swedish dental public health service ("Folk tandvården").^{1,2}

Thus, the total dental education of a Swedish dentist before licensure is now 5½ years. The first dentists from this new program graduated from dental schools in December 1983.

Goals of AT Prelicensure General Practice Residency

The prelicensure general practice residency is still in a formative stage. It was originally inspired by its medical practice residency counterpart that was initiated in the late 1960s. The official goals, according to Dr. John Hedlin, former dental director of the National Board of Health and Welfare, are:

- To integrate more fully the students' theoretical and clinical dental knowledge in the field in a supervised manner according to the specific needs of the student;
- To improve the general quality of care in Folk tandvården (the public dental service) by improving the knowledge of those educating the student during the residency

(Swedish dentistry is about half private and half public);

- To try to improve the cooperation and information exchange between academic faculties and dentists in the field;
- To increase both student and general clinic awareness of the role of dentistry in the context of total health care in the population, emphasizing preventive dental practices; and
- To help redistribute the workforce to areas of high dental care need.

This ambitious project attempts to foster an organized clinical learning environment for dental students as a link to the concept of lifelong learning.

Most dental students and dental faculty and the Swedish Dental Association believe that a general practice residency is a sound idea. The Swedish prelicensure general practice residency program is seen as a vital link between academia and the "real world" of dentistry. Dental faculties have been instrumental in the education of the AT field educators, so contacts and cooperation are already established. The AT program think-tank at the National Board of Health and Welfare hopes for continued cooperation, such as recent AT review symposia held by dental schools at Umeå and Malmö. But according to the Board, due to Swedish national budget cutbacks, no formal plans have been made for continuing collaboration other than dental school faculty evaluations of AT written final examinations taken in the field. Still, some faculty members express optimism and a will to combine academics with dental practice³.

Field Educators (Handledare), Structure and Functioning of AT

The field educator role concept is central to the structure and functioning of AT (see Fig. 1). The "handledare" who supervise student dentists are usually clinic chiefs in the public dental service and have been trained at dental schools and government-approved specialist training centres. There are no private practice AT residencies, although the idea has been discussed. Handledare training began in 1977 and consisted of three weeks of community dentistry, psychology, and education coursework; three weeks of prosthodontics, dental materials, and occlusal physiology; and one week each of periodontics, cariology, pedodontics, orthodontics, radiology, diagnosis, oral surgery, and endodontics—a total of 14 weeks spread over a two year period. The costs to county and federal governments for this training program are estimated to have been about \$5000 Cdn. per week, which includes transportation, lodging and course fees for an estimated 400 AT handledare.

As shown in Fig. 1, the "handledare" instructs, administers and awards certificates of approval to AT dental residents at local AT clinics. Together, the clinical handledare and AT student resident (usually one per AT clinic) decide how to organize the nearly 1600 hours of student field training. However, general guidelines for AT instructional and administrative goals are set by the National Board of Health and Welfare (see figure). The Board also grants licensure.

Instruction

Instruction occurs informally in the AT clinical environment usually in the form of consultations as well as in a more structured format for diagnosis and treatment planning. AT dental residents and the handledare meet about every seven to 14 days for a formal therapy planning session with or without the rest of the clinical staff. The handledare's legal responsibility for the clinical competence of the AT student resident lies only up through the stage of diagnosis and treatment planning. Thereafter the AT resident must take the initiative as a responsible practitioner to ask the handledare or other colleagues for advice about specific procedures and problems. The AT student resident has a temporary license to practice with all of the same rights and limitations of other licensed dentists⁴.

Administration

It is also the handledare's responsibility to see that the student receives well-screened new patients that fit each individual's educational needs. The most difficult cases are given to more experienced colleagues. The AT dental resident often sees both adults and classes of children on recall examinations. The handledare and AT resident also make arrangements for visits with different specialists out in the surrounding area, usually concerning a specific AT patient problem. Specialists frequently visit AT clinics to provide refresher courses. Many AT residents are also involved in local community health care projects, such as homes for the handicapped and aged or county centres where new parents receive child health care information. AT dental residents are expected to devote 15 to 20 per cent of their AT year to specialist, community and individual study activities.

As another more indirect result of the clinical handledare's extra training, plus a general effect of a locally organized learning environment, it also appears that better clinic communication and more diagnosis and treatment consultations are occurring in the AT clinics⁴. Most AT clinics now have regular therapy discussion sessions that appear similar in nature to North American dental study clubs.

At the end of the AT year, the handledare educators issue a certificate of approval to those residents felt to be clinically capable. This certificate, the diploma from the original academic institution, plus a passing score on the AT final examination, entitle the dental resident to licensure in Sweden, as issued by the National Board of Health and Welfare.

AT Final Examination

Given two times a year (late autumn and spring), the AT final examination can be taken by AT student residents who have had at least nine months of full-time AT experience and who are approved by the local clinic handledare. The same exam is given simultaneously across the country at each AT clinic. The National Board of Health and Welfare is responsible for the written exam, but it is evaluated by the faculty of one dental school chosen each year on a rotating basis. Each applying student costs the National Board of Health about \$50 Canadian. Students pay no fee. Materials such as forms, x-rays, study models and photographs are sent by mail to the handledare, to be opened in the presence of persons other than the AT resident. The resident then has four hours to complete the test covering diagnosis and treatment planning for one adult and one child patient. An essay and short answer examination is graded according to very high standards and 18 per cent of the applicants failed either one or both parts in the spring, 1985 exam. Students can take the failed portion over again two months later or at the next scheduled examination period in six months. The AT final examination is not only intended to evaluate students, but also the undergraduate dental curriculum and any particular weaknesses in it. For example, students are now demanding more training in diagnosis and treatment planning during dental school, as well as dental health care economics and practice management skills.

A few handledare educators appeared to be more upset than the dental residents about failures in the examination. Some handledare have accused the academic institutions of not being in touch with the "real world" of dentistry enough to provide a realistic and fair testing situation. Most appear to consider the testing to be fair. Students appear to be reasonably satisfied with the examination^{5,6,7}.

Assessment and Critique of AT

The goals set forth for AT appear on the way to being met, although dentist redistribution is no longer a problem, since there is currently an oversupply of dentists in Sweden. However, there are some criticisms of AT.

The Younger Members organization of the Swedish Dental Association originally had three main concerns about the residency program. Would it be counted as formal education by other countries? Would AT positions be distributed on an equitable basis to students desiring a choice of location? How would unemployed graduates of the old five-year curriculum be selected for jobs in competition with AT-graduated, so-called "new" dentists?

The National Board of Health and Welfare has speculated that AT will be counted as part of the Swedish formal dental education³ in other countries, since most require five years of schooling — but there is no evidence of contacts established with other European national health board ministries to prove this claim. The board believes that the Swedish Dental Association should make these contacts, since Sweden is not a member of the European Common Market. However, the greatest difficulty seems to lie not in actual acceptance of Swedish licensure, but rather in obtaining work permits due to high dentist concentrations in most countries. Thus, the status of AT outside Sweden seems to have had only a minor influence on foreign acceptance of Swedish licensure.

The role of the local counties in the AT scheme has often been problematic. In the organizational planning for selection and distribution of dental residencies, a federation of 26 Swedish county authorities independently decided to pursue a plan similar to the one in force for AT physicians. The dental association and the students were angry with county officials over the matter, finding the county proposal unacceptable. The Swedish Dental Association had spent a year preparing a combined application-lottery scheme, testing it and working with the counties for their approval. It was believed that the scheme was less complicated and more fair than that of the county, which is based completely on student merits, both academic and vocational⁸. Since most of the dental students are not interviewed by the county officials or public dental clinics, some questions have been raised about standardization of merit values and county hiring practices.

The timing of application due dates and announcements of hiring also vary widely from county to county and are another headache for young AT dentists. The Younger Members organization as well as the National Board of Health and Welfare is actively involved in trying to improve the communication links between county authorities and dental schools in an attempt to get one common date for notification of hiring for all the AT counties. They also wish students to be allowed to have 2-3 days to

think over the alternatives before responding, if a difficult choice becomes necessary.

Some counties can hire only a few AT positions in proportion to their overall population size, in comparison with other counties. This also creates hardships for some dental students with families (especially married classmates) who may own a home in a particular locale. Many young families are forced to split up and move to different locations, sometimes at a considerable distance. Also, no moving allowance is paid by the hiring counties, so young dentists must foot that bill. Still, 65-70 per cent of AT dentists are placed near their home regions⁹.

Because of budget cuts and additional costs of the AT program, many counties set a productivity requirement for AT dental residents. AT residents work for 70 per cent of the wages of licensed dentists, while only expected to produce half as much work as a fully licensed dentist from the beginning. Therefore the counties put pressure on AT residents to produce and increase income from patient fees and national insurance benefits, which many residents find distasteful. The counties receive no additional funding from the national government for the dentist AT program.

As AT positions are guaranteed to all ninth semester dental students, the already unemployed dentists (about 200 as of January 1986), plus dentists finishing temporary job placements, are finding the job market even harder than before. It is often difficult to compete with the new clinically experienced AT dentists, especially since local clinics consider the AT year as a trial employment year, in some cases.

While most of the handledare educators are enthusiastic about the AT year, some concerns have been raised. An extra burden of instruction and administration has been

placed on them without additional financial incentives for their extra work and specialized training. At a time when competition with private dentists for new patients is increasing, many public clinic chiefs also fear that they will lose new patients, since most new patients have no choice but to be examined and treated by the AT dental residents. The situation is compounded since most AT residents leave the clinics after a year and must transfer their patients to another dentist, possibly another "temporary" AT student resident. Therefore, continuity of care and free choice of dentists appear to present occasional problems in this model, not to mention the flexibility that is demanded of auxiliary clinical staff.

Cost of AT

Finally, some critics outside Sweden feel that the more than 2 million dollars spent to finance the AT program are exorbitant and unrealistic. Swedes feel justified in these expenses when they consider the future benefits to be derived from the program.

The Future

The decreasing enrollment in Swedish undergraduate dental programs due to dentist unemployment is changing the role of the dental schools and their societal function.¹⁰ The Swedish dental school faculties plan to expand postgraduate and continuing education for practicing dentists in the future. The vision is to provide a "learning centre" to help retrain clinicians to meet the demands of a rapidly changing dentist role. For example, now that children's dental health care in Sweden is excellent and well covered, there is growing emphasis on care for the elderly — part of a larger trend within Swedish society to improve their quality of life for the elderly. Dental school faculties want to prepare the dental practitioner for the coming shift to gerontology. Some mem-

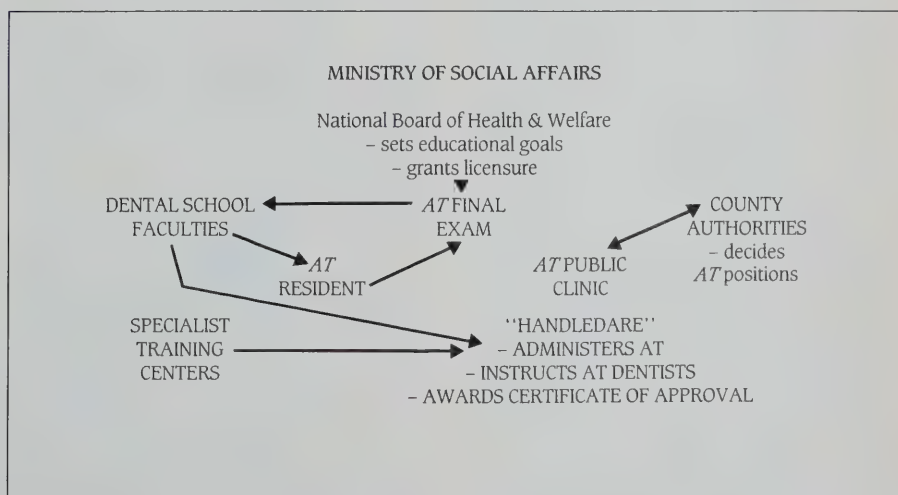


Figure 1 — Schematic of A.T. prelicensure dental residency program and relationships between responsible authorities

bers of academic faculties are also trying to promote a new health policy and dentist image to the public: the dentist as the diagnostic professional out in the field who serves as team manager of primary oral health care services and is also in a position to provide some simple preventive medical screening services such as blood pressure checks and health-history taking. Thus, the Swedes tend to see dentistry becoming more like a specialty of medicine — the oral physician concept. In line with this future vision of dentistry in Sweden, the importance of the precensure general practice residency as a communication and feedback link between academia and the field practitioner is perceived as an initial step in a continued and expanding dialogue to create a flexible dental corps more capable of quickly responding to social needs. Neighboring Norway is also planning modified versions of the Swedish AT model, a sign of its growing acceptance in the Nordic region⁹. Educational ideas and innovations such as Sweden's AT precensure general practice residency can, in spite of its growing pains, provide solutions to employment and role change problems facing the future of dentistry.

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IMPORTANT



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BENEFITS AND IMPLICATIONS

OF PRELICENSURE FOR THE PUBLIC

W. Wilton

Program Leader Niagara Institute
Niagara-on-the-Lake, Ont.

First and foremost, it is increasingly difficult if not impossible, for a group such as dentistry to make significant changes which will effect large portions of the public and/or other institutions without meaningful consultation very early in the process. What do I mean by meaningful consultation? *Meaningful consultation* is an ongoing dialogue among affected stakeholders including government, aimed at obtaining all relevant information, evaluating the available options and their related consequences and providing an objectively balanced perspective to each stakeholder's decision-making. A primary objective is to obtain consensus at each stage of the process. *Stakeholders* are defined as those groups who have a vital interest in the issue, will be directly affected by the outcome, and/or make an important contribution to its resolution.

Meaningful consultation is not simply a matter of bringing a diverse group of interested parties together and expecting them to immediately and automatically develop solutions to complex issues. It takes time for the participants to understand each other's respective positions and to develop trust in each other and the process.

The decision to consult must be motivated by a genuine desire to obtain input and a sincere commitment to objectively consider the views received. Forthrightness and clarity in stating the purpose of the consultation is imperative to avoid time wasting debate. An essential ingredient for success often overlooked is for the consultation to begin without pre-determined non-negotiable solutions.

All too frequently, a well meaning group decide over time what is best and proceed to set up consultation with others important to the success, but less directly involved in the technical aspects of the problem. The approach that we have the solution and want to consult with you so that you understand it is hardly conducive to consensus. This approach fosters opposition almost immediately because it seems to be necessary for individuals, such as ourselves, to influence our own destiny and our sense of personal worth is not reinforced when others prescribe for our needs without first discussing them with us in a meaningful way. On these rocks, many good projects are shipwrecked without receiving the attention they deserve. As President Lyndon Johnson was able to demonstrate so effectively after Kennedy's death in the U.S., there are good ideas but without great strategists to implement them, few come to fruition. Strategists provide the vehicles for us to achieve these ideas or objectives. For this group, the CDA's role is that of strategist, and its effect on the ultimate implementation of objectives developed in sessions such as these is critical and should be so recognized.

I would now like to focus on the environment within which you are now operating. To quote Pat Delbridge, an influential Ottawa consultant on special interest groups: "The trend in Canada is toward a more informed and educated public which is demanding greater input into health policy decision-making, the forging of links between environment and health issues, increased public concerns with the protection of privacy of personal

records, the rise in the self-help model, and a perception among the public of social benefits as a right, have together given rise to a new conceptualization of health. This concept which stresses the inter-relatedness of a wide variety of areas previously perceived as separate — the ecosystem approach — will have increasingly important implications for the private and public sectors."

How is this informed public increasingly influencing our governments and other institutions?

There are more than 600 voluntary sector public interest groups in Canada and the number is growing. They are dedicated to influencing those who effect their specific concerns and in addition, they form coalitions with others around specific issues where a commonality of interest exists. While you may not be aware of the growth, complexity and increasing sophistication of these groups, you are all aware of the key role played by them in such issues as: community health; smoking; drunk driving; women to control their own bodies; and the list goes on and on. They are a potent force in Western society and those wishing to cause change without involving the groups that are affected place their long-term objectives in jeopardy from the very beginning.

Your credibility with these groups, and indeed governments, will hinge to a large extent on your total involvement. As a group, you are perceived by how you act, which may or may not support what you say. To be for oral health and neutral on smoking for example, or to want a higher quality of dental treatment without addressing in a meaningful way those who have

little or none, will be seen as focussing the issue too narrowly and will be reviewed in a broader context by many of these groups and by the public they seek to influence.

Many of these voluntary interest group thought leaders are guided by the principle that universal access to high quality, appropriate health care is a right and that the institutions of the health system must be democratized. They proceed on the assumption that health is both political and social in nature.

And what about the health system itself?

It can be seen as being impacted now by three major issues: demography — specifically the aging population; technology; and fiscal restraints. Under these broad headings lie a range of specific issues including; improved standards in nursing homes, privatization of health services, extra billing and user fees, safety of medical devices, curative vs. preventive care, the ethics of transplants, the use of life sustaining technology and computer diagnosis to name just a few.

As many of you are painfully aware, the collision that results when these conflicting objectives and constraints meet can result in significant negative impact.

So what does all this mean to prelicensure?

In addition to involving important stakeholders in the process at the very beginning, it will be necessary for you to consider the total process from this point through implementation to ensure continuity and support. While meaningful consultation with the various stakeholders will in itself develop questions and set the agenda for your detailed discussions, the following questions should form an important part of your debate and the earlier you engage in this dialogue and develop definitive answers, the greater your chances of success in implementing the final recommendations.

It will be important initially to establish who is believable on this issue and why? Is it the universities? Is it the practitioners? The specialists? The CDA? Is it the government? Is it all or none of the above? Who will be affected and how can they be meaningfully involved? Who are the thought influencers relative to this issue? What are the trade-offs and conflicting priorities in dentistry itself and in the broader medical perspective? Does it address the public's priorities? How does it address the government's priorities? Do they differ? How will govern-

ments and individuals be convinced that more is better? What does the additional cost actually consist of? What are the realistic related costs?

If this task in total seems like a large one, it is. Much larger than deciding among those *directly involved* what is best. However, this is not meant to discourage those who really want to make an important change because there are excellent examples in Canada of those who are impacting change through this process. However, as the very nature of the process is one of developing consensus with little direct confrontation, certainly not in the public arena, it gains few headlines and by its very nature is little known.

In closing, I would like to note that the greatest untold story in dentistry, in my view, is the role dentists have played in the prevention of dental disease over the years. This provides an excellent model of the leadership that can be exhibited in improving the health care of Canadians, and provides a demonstrable example of dentists working for the long term good of the public at significant cost to themselves. This certainly forms an excellent base from which to build.



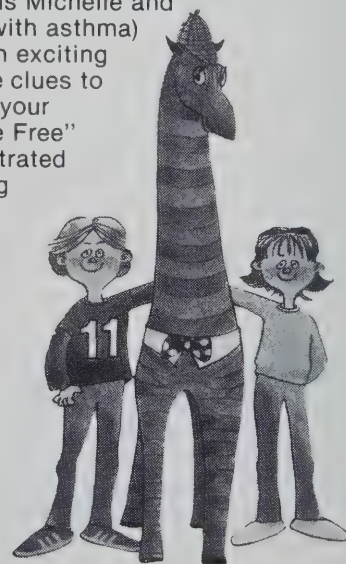
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IMPACT ON GENERAL PRACTICE

Bradley W. Holmes, DDS, President, CDA

In my literature search I was unable to uncover any direct reference to this particular topic, that is, THE IMPACT ON GENERAL PRACTICE OF A PRELICENSURE PERIOD. I would also like to point out that the views expressed in this presentation are my own and do not represent those of the Canadian Dental Association. There is always the risk of this misconception when the president of an organization presents in the public forum.

If we are going to adequately assess the effect of a prelicensure period on general practice, there are several assumptions we must make for purposes of discussion.

- that the prelicensure period will come to pass. Obviously, if it doesn't, there will be no effect.
- that it will mean an extra period of time for the students over and above their education in dental schools prior to entry into the profession as licensed practitioners. Trying to convince the students that this is a good idea is somewhat akin to trying to convince the moose that hunting is in his best interest.
- that there are not enough schools, hospitals, government agencies and institutions to support this concept. Therefore the private sector will have to be involved in the program if it is to have any measure of success.
- that there will be adequate funding to guarantee the successful placement of the dental graduates. Hospital internships or residencies currently pay annual salaries in the mid-twenty thousand dollar range so it is fair to assume that the earning capacity for services of this kind either in internship or externship programs will continue or be changed to make all programs comparable.

- that there will be adequate compensation for the practitioners involved in the program so that it will appeal to all ranges of practitioner. . . not just those who do not have an adequate work load. An ideal situation would be the involvement of a busy, ethical and concerned practitioner prepared to share his time, knowledge and abilities with the graduate student.
- that a selection mechanism is in place to assure that the dentists involved will perform properly as expected, to instil values and ideals into the graduate students.
- that the graduates will be allowed to perform a full range of dental treatment including diagnosis and treatment planning with some supervision by the attending practitioner.
- that final licensing logistics have been determined and a mechanism is in place to grant licensure on whatever basis is decided.

Now then, what is the impact of this system on general practice and general practitioners?

Positive Impact or Effect:

1. *THE SYSTEM WOULD PRODUCE A HIGHER-CALIBRE, MORE EXPERIENCED CANDIDATE FOR LICENSURE. There are many reasons for this.*

- it would add one year (or whatever period is deemed adequate) of maturity where the graduate is learning, as a peer and not just a student.
- it would give the candidate an opportunity to gain experience in a variety of dental settings.
- it would probably create a more dedicated applicant to the profession as the additional time involved in the training period would

be a deterrent to some. This may have the effect of reducing the pool of applicants to the dental schools but the quality would be higher.

- it would provide a weeding-out mechanism that would "hold back" candidates not ready to begin providing the public with professional service. In some cases, obviously, this weeding-out process would be permanent. In others, remedial programs would be taken in order to bring that candidate to a level of competency required by the licensing authority.

As a graduate from a prelicensure year (a voluntary rotating dental internship) I feel that the experience and learning gained post-graduation was as important as that gained prior to graduation. If we project the effect of this system over a number of years I think it is safe to say there will be a resultant improvement in the knowledge of the dental practitioner.

2. *THERE WOULD BE OPPORTUNITIES FOR THE GENERAL PRACTITIONER TO BE INVOLVED IN A WORTHWHILE ENDEAVOUR, HELPING TO POSITIVELY INFLUENCE THE SKILLS AND ATTITUDES OF A NEW GRADUATE.*

- this will also improve the quality of dental practitioners because as we know it is impossible to teach without learning. A symbiotic relationship between dentist and graduate will improve the knowledge of the teacher as well as the student.
- more positions will be required by the licensing authority to achieve the licensing requirements (i.e., if the licensing is done by examination then there will be many more examiners necessary to achieve the task).

3. *THERE WILL BE BETTER DISTRIBUTION OF DENTISTS.*

- the preclicensure program would place graduates in many locations that they would not necessarily choose on their own. It seems logical to expect that a certain number of those graduates may choose to stay in more remote regions if they discovered the advantages "first hand" of being there.

4. MORE POSITIONS WOULD BE AVAILABLE IN HOSPITALS AND INSTITUTIONS.

- if the program is to be successful, it would be necessary to increase the number of internship programs available. Staffing for these programs would create opportunities for the private sector to become involved.

Negative Influence or Impact

1. *IT WILL ADD* a period of time to the existing education of the student which could have an adverse affect on his attitude on entry into the profession.

2. *IT COULD CAUSE SOME REDUCTION IN PATIENT FLOW TO PRACTITIONERS IN THE RURAL AREAS.* This would happen due to improved distribution of dental personnel in more remote districts. Take my own area of Kenora as an example. If graduates involved in the program were to be placed in several of the major Indian Reserves in the district this would obviously reduce the numbers of native patients seeking treatment in local dental offices. Any program which brings dentistry into remote areas and has a positive effect in that respect has a resultant negative effect on the existing practitioners who rely on patients from remote areas as an integral part of their practices.

3. *PROGRAMS TO PROVIDE DENTAL SERVICE MAY BECOME REDUNDANT.* Examples of such programs are the contractually arranged programs between the Medical Services Branch, the Ontario Dental Association and the University of Toronto. These programs currently contract with general practitioners and students to provide dental treatment in some of the remote areas such as the Sioux Lookout Zone and the Moose Factory Zone of Ontario.

4. *THERE WOULD BE A REDUCTION IN THE NUMBER OF ASSOCIATESHIPS AVAILABLE FOR NEWLY LICENSED PRACTITIONERS.* This would happen as a result of some of the previously available associateships being taken by participants in the preclicensure program. With the current trend of new practitioners starting their practice careers as associates, this could be a relatively difficult problem.

I have deliberately not portrayed the effect of preclicensure on manpower as positive or negative. I do not believe that it will have a substantial impact in that area. At maximum it will only delay entry into the profes-

sion by the pre-licensurees for one year. At minimum it will have no impact at all, as the working graduates will consume most of the available appointments in the same manner that they would if they had been licensed. I believe that in this area Newton's Third Law will apply: "To every action there is an equal and opposite reaction".

Discussion

Let me assure you that we are not the only group looking at a mandatory preclicensure period. One of the recommendations looked at by the Task Force on Advanced Dental Education of the American Association of Dental Schools reads:

"extending the preparation for general dentistry by adding either an additional year to the predoctoral program or by requiring a year of advanced general practice experience before licensure."

The Task Force decided not to recommend this in 1980 but instead took the approach of making the recommendation as follows: "The Task Force recommends that the number of positions in general practice residencies and other advanced dental education programs designed to better prepare students for general practice should be increased to accommodate approximately half of the dental school graduates by the mid-1980's".

Is the final licensing to be accomplished by examination or merely by credentials, i.e. graduation degree and preclicensure certificate? If examination is the mechanism then it will certainly become more burdensome for the licensing authority. Would this licensing exam be handled by a certification authority such as NDEB and ratified by the licensing authority, or would the universities be charged with the responsibility? Whose ultimate responsibility is it to decide that a graduate is prepared for licensure?

I think here it is necessary to consider the difference between a licensing authority and an academic institution. Certain schools indicate that it is simply their responsibility to prepare students for graduation. In other words, they take the responsibility for dissemination of information and teaching basic skills, but they do not feel they are responsible for how that information and knowledge is applied on a practical basis. If we acknowledge that to be true, this alone should justify the need for a mechanism such as a preclicensure period to complete the development of skills necessary for licensure.

Whether the licensure would take place via examination, credentials, peer review or a combination, it is obvious that some candidates would fall short. A mechanism for remedial work would be a necessity to bring them up to a standard for licensure.

For these programs it would seem logical that the universities are in the best position to accomplish this. Other options may be necessary such as additional preclicensure experience or other continuing education programs.

A mechanism would have to be developed to encourage the involvement of the type and quality of general practitioners needed to ensure the success of the preclicensure program. The success of the program would depend largely on these selected individuals. These are the resource people charged with the responsibility of shaping the attitudes and abilities of the graduate. The selection of these individuals must be done very carefully or it could become an ANTI-selection process. Only those dentists with free time, or perhaps looking to achieve some outside income, would be attracted to the program. We have all heard stories of the failure of some externship programs as a result of improper management of the externs. None of us wants the pre-licensuree to be merely a form of slave labour, to quote one of the student concerns.

The only jurisdiction in North America that I found to require a preclicensure period is the State of Delaware. In a discussion with Dr. Ralph Tomases, secretary of the Delaware State Board of Dental Examiners, the following information was provided: In order to be eligible to write the Delaware State Board exams the candidate must have to his credit. . .

- 5 years of dental practice, or
- 2 years of service in the military dental corps, or
- 1 year residency in general practice or its equivalent in a program approved by the A.D.A.

This program has been in existence since 1943 in this small state which only has some 300 practising dentists. In Dr. Tomases' view and that of his board, the preclicensure period provides Delaware with a more mature, experienced and overall better qualified dental practitioner.

As one wades through the pros and cons of the concept one is faced with many conflicting thoughts. On one hand we have. . . , and on the other hand we have. . . ! It is my view that the positives outweigh the negatives. I think that the negatives are mainly logistical while the positives are philosophical and ideological.

The overall impact on general practice would have to be positive if the program works as designed. When would we as dentists ever have such an opportunity to influence the future ideals and goals of our profession?

It may not happen during my practice lifetime, but if it does, I would like to be part of it.

CARDIOVASCULAR DISEASES AND THE DENTAL PATIENT

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Charles O. Munroe, MD, BChD, FDSRCS
Toronto, Ontario

ABSTRACT

Cardiovascular diseases are found in a large segment of the population, especially the elderly. The commonest cardiovascular problems encountered in dental practice involve patients with ischaemic heart disease, with hypertension and with cardiac conditions requiring antibiotic prophylaxis. This article discusses the first two conditions, with a view to giving the dentist a good understanding of the possible medical problems involved and how this may affect the dental management of the patient.

SOMMAIRE

Les maladies cardio-vasculaires touchent une grande partie du public, surtout les gens âgés. Au cabinet dentaire, il se présente souvent des patients souffrant d'ischémie coronarienne, d'hypertension ou d'une affection cardiaque exigeant des antibiotiques comme mesure prophylactique. Dans le présent article, il est question des deux premiers désordres. Le dentiste doit bien comprendre les problèmes médicaux possibles et les conséquences qu'ils peuvent avoir pour la gestion du patient sur le plan dentaire.

Cardiovascular disease is found in a very large segment of the population, with an increasing incidence in the older patient.¹ As life expectancy increases, therefore, the dentist must become more familiar with the medical needs of these patients and the necessity to modify dental treatment accordingly. The commonest cardiovascular problems encountered in dental offices involve patients with:

1. Ischaemic heart disease (I.H.D.)
 - i. angina pectoris (recent onset, stable, progressive);
 - ii. post myocardial infarction.

2. Hypertension

3. Cardiovascular problems requiring antibiotic prophylaxis.

In general terms, any patient with a cardiovascular problem should have a specific evaluation of the cardiovascular system. A thorough history is an essential safeguard to prevent problems developing during treatment. Specific questions should be asked about shortness of breath (S.O.B.), shortness of breath on exertion (S.O.B.O.E.), palpitations, chest pain, its location and duration, how this is provoked and, most importantly, if there has been a recent change in symptoms. In some instances, it is wise to write or telephone the patient's physician to confirm or clarify the patient's cardiovascular status and, by explaining the dental procedures proposed, to enquire whether any additional treatment modification is advisable. It may even be necessary to refer some patients with a serious problem to a hospital dental department,² e.g. acute or recent (within preceding six months) myocardial infarction, angina pectoris which is progressive or of recent onset, congestive heart failure, uncontrolled arrhythmia, significant, uncontrolled hypertension and hyperthyroid patients who are not in good medical control.

1. Ischaemic Heart Disease

Angina pectoris is a clinical syndrome resulting from transient ischaemia of the heart. It is frequently described as a deep, oppressive, retrosternal pain or alternatively as a gripping sensation in the chest. Duration is variable, usually less than five minutes. It is usually relieved by coronary vasodilators, nitroglycerine, or a brief rest. In rare cases, the pain may be referred to the mandible, but its occurrence with physical exertion and disappearance with rest,

are clues to its cardiac origin. Attacks lasting longer than 20 minutes suggest a form of unstable angina or a myocardial infarction (heart attack).³ With infarction, the pain is not relieved by rest or nitroglycerine.⁴

In most cases, the patient's history is the key to the diagnosis of angina pectoris. Angina can be triggered in several ways including physical exertion (walking up a flight of stairs), eating a heavy meal and/or emotional stress. This latter, especially if combined with pain (e.g. during dental treatment), is especially liable to provoke an attack in the susceptible patient.

Patients with angina pectoris may have a *stable pattern* of attacks which carries a relatively good prognosis. Others, (*unstable angina*) may develop a progressive or irregular pattern in which the frequency and duration of attacks increase with time. Patients who develop cardiac pain when at rest (*decubitus* form of angina pectoris), patients with a progressive or changing pattern and patients with new angina (i.e. recent onset), may have a poor prognosis and may develop myocardial infarction within a short period of time. Hence the necessity for establishing the type and pattern of angina.

In *stable angina* (effort induced), the precipitating factors are those that increase myocardial oxygen demand by increasing heart rate and blood pressure. These are events such as physical exercise, especially in cold weather and emotional stress. In *unstable angina*, the pain may occur spontaneously, without precipitating events because the most likely aetiology is a decrease in blood supply to the heart muscle, perhaps as a result of coronary spasm and/or platelet aggregation. Coronary spasm may occur in individuals with normal coronary arteries or in patients with

coronary atherosclerosis.⁵ The exact mechanism is unknown. One theory suggests that endothelial damage results in platelet aggregation and the release of thromboxane, a prostaglandin and a potent vasoconstrictor. Unstable angina pectoris, is described by Rose and Kaye³ as a syndrome, intermediate in severity between classic effort induced angina and myocardial infarction. Botti and Vasilakis⁵ define *NEW angina* as "a history of angina with a duration of less than 30 days". Such patients are frequently mistakenly identified as having stable angina because their original episodes occur only with exertion and may not be very severe. However, special care is warranted with these people, as they can be "potential candidates for acute myocardial infarction and sudden death".⁵

Treatment Planning Modifications

The American Dental Association and the American Heart Association Conference group has summarised the dental care of cardiovascular patients clearly and concisely:

"Generally speaking, a fully ambulatory patient without cardiac symptoms who can come to the dental office is suitable for outpatient care. Exceptions would include most patients on anticoagulants or patients expected to have difficult extractions. Management of dental problems in patients with cardiovascular disease requires close co-operation between the physician and dentist. The physician must be aware of the dentist's problem and in turn, the dentist should know the medical problem and limitations it imposes. There is need for mutual understanding, respect and co-operation between the physician and the dentist, if the best interests of the patient are to be served."⁶

Patients with a history of recent myocardial infarction should not receive any elective dental treatment. The rationale for this is the high incidence of recurrent M.I. occurring in patients on whom elective minor surgery is performed, in the first six months following a heart attack.⁷ Emergency dental care is best provided in a hospital dental department, where facilities are at hand should a cardiac arrest develop. These patients are treated as conservatively as possible, with relief of pain as the main objective.

In general it is also best that patients with new, progressive or decubitus angina receive no elective dental treatment since they are high risk patients for myocardial infarction, at least until their condition has stabilised. These patients could also be referred to a hospital dental department.

Special Considerations

As has already been indicated, the proposed treatment plan should be discussed with the patient's physician. The following specific recommendations may warrant consideration.

1. It is particularly important to avoid emotional stress and pain in these patients. To this end, short morning appointments are advised with adequate premedication, e.g. diazepam 5-10 mg. given the night before and the morning of the appointment. (Discuss with physician if premedication is considered necessary.)
2. If the patient uses nitroglycerine, ensure he has a fresh supply with him. Nitroglycerine is stable for three months if opened. Otherwise, it is good for the shelf life indicated.
3. Some physicians recommend that nitroglycerine be taken prophylactically, but as this can cause orthostatic hypotension in some patients, it should not be given routinely especially for patients with stable

angina where the pain is brought on only by exertion.

4. Effective local anaesthesia (L.A.) is a must for these patients. It is appropriate to consider avoiding the use of epinephrine, providing this is compatible with good dental management and pain control. However, it must be remembered that when epinephrine is *not* used with local anaesthetic solutions, the incidence of inadequate anaesthesia is increased⁸ causing the patient to secrete endogenously, much larger quantities of epinephrine or norepinephrine than are supplied in the average 2 ml ampoule of L.A.⁹ As Malamed¹⁰ says, "The cardiac patient is more at risk from endogenously released epinephrine than from exogenous epinephrine administered in a proper manner". He recommends a maximum dosage of 0.04 mg. in cardiovascular risk patients. This equates to approximately four cartridges of 1:200:000 epinephrine. This recommendation concurs with the most current conservative recommendations of Cawson,¹¹ Bennett¹² and Dann¹³. Bennett¹² adds that a safe suggestion for anaesthesia of the questionable patient would be the administration of not more than two cartridges containing 1:100:000 epinephrine or a comparable amount of related drugs.

Cawson¹¹ says that overall there is considerable evidence to suggest that anxiety alone can produce at least as severe effects on the heart as the adrenaline in local anaesthetics.

As with all drugs, the least amount which produces the desired therapeutic effect is the best dosage. Epinephrine is no exception. There does not appear to be any rationale for the use of 1:50:000¹⁴ except in certain rate situations where local haemostasis is required.¹⁵ It is particularly important that gingival retraction cord impregnated with adrenaline be avoided in cardiovascular risk patients. In fact, Malamed¹⁰ believes these should not be used on any patient, since sizable amounts of the drug can be absorbed through gingival vessels.

Botti and Vasilakis⁵ suggest mepivacaine hydrochloride (carbocaine®) as a safe and rational alternative, especially when used in the plain 3 per cent solution. It suffers from the disadvantage however of only providing 20 minutes of anaesthesia for maxillary teeth and 40 minutes for mandibular teeth.

Pallasch¹⁵ suggests that in many situations, prilocaine without vasoconstrictor (Citanest Plain®) will produce an inferior alveolar nerve block equal in duration to lidocaine with 1:100:000 epinephrine and mepivacaine (carbocaine) without vasoconstrictor will produce satisfactory maxillary arch anaesthesia.

TABLE 1

Classification of BP²²

Range, mm Hg	Category*
Diastolic	
< 85	Normal BP
85-89	High normal BP
90-104	Mild hypertension
105-114	Moderate hypertension
≥ 115	Severe hypertension
Systolic, when diastolic BP is < 90	
< 140	Normal BP
140-159	Borderline isolated systolic hypertension
≥ 160	Isolated systolic hypertension

*A classification of borderline isolated systolic hypertension (systolic BP, 140-159 mm Hg) or isolated systolic hypertension (systolic BP, > 160 mm Hg) takes precedence over a classification of high normal BP (diastolic BP, 85-89 mm Hg) when both occur in the same person. A classification of high normal BP (diastolic BP, 85-89 mm Hg) takes precedence over a classification of normal BP (systolic BP, < 140 mm Hg) when both occur in the same person.

²²The 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure. Arch. Intern Med. Vol. 144, May, 1984, 1045-1057.

This information should be carefully weighed and discussed with the patient's physician. Where the physician still recommends strict avoidance of epinephrine and it is felt that this would create serious difficulties in the dental management of the patient, then referral to a cardiologist or a hospital dental department for a final opinion, may be appropriate.

An aspirating syringe should always be used to avoid intravascular injections. Frequent aspirations in several planes is necessary, especially with an inferior dental block, to prevent intravascular injections. The least possible amount of L.A. compatible with profound anaesthesia should be injected *slowly*. Intraosseous injections should be avoided because of the high vascularity of bone. Inject very slowly, with minimal pressure. Multiple injections should be spaced in time. Reduce pain at the injection site (use topical L.A.). Following injections, keep the patient under close observation. These recommendations are based on a report sponsored by the A.D.A. and the A.H.A. in 1964 on the management of dental problems in patients with cardiovascular disease.⁶

Following myocardial infarctions, some patients are placed on anticoagulants to prevent further thrombosis and it is advisable to consult the patient's physician prior to any surgery. Chamberlain¹⁴ has stated that the danger of clotting when anticoagulant drugs are discontinued is greater than the danger of bleeding when the drugs are continued, provided that the proper safeguards are used. The blood prothrombin time should be held in low optimal range (1½ times the control level).

If extraction is necessary a technique such as that of Behrman and Wright¹⁶ could be carefully followed. This includes:

- a. advising hospitalization;
- b. constant pressure to the involved tissues during the surgical procedure;
- c. the placing of foamed gelatine in each socket;
- d. multiple sutures placed under tension;
- e. heavy biting pressure for 30 minutes, maintained by biting gauze pressure packs;
- f. ice packs, 30 minutes on and 30 minutes off, applied externally for 48 hours;
- g. withholding mouth rinses and hot liquids for 48 hours and maintaining a soft diet for 48 to 72 hours.

2. HYPERTENSION

It has been estimated that about 5 per cent of the adult American population has identified hypertensive disease. About the same portion of the adult population has hypertension but is unaware of its presence.

In *primary* hypertension (approximately 90 per cent of cases), no underlying patho-

logic abnormality can be found to explain the cause (essential hypertension). The term *secondary* hypertension is applied when the direct cause (e.g. chronic renal disease) can be found.

Primary or essential hypertension becomes more common as age advances and genetic influences, obesity, excessive salt intake and a variety of other factors are probably contributory.¹⁷

Normal blood pressure increases from infancy to adulthood. The upper "normal" level for adults is 140/90 mm Hg. Increased sustained elevations in blood pressure carry a significant risk in terms of shortening of life span.

Most untreated adults with hypertension will have an increase in their arterial pressure with time. Furthermore, both from actuarial data and from experience in the era prior to effective therapy, it has been documented that untreated hypertension is associated with a shortening of life by 10-20 years, usually related to an acceleration of the atherosclerotic process. The rate of this acceleration is in part related to the severity of the disease. But even people with relatively mild hypertension, left untreated for 7-10 years, have a risk of developing significant complications.

Complications which may result from hypertension including renal failure, cerebro-vascular accident (C.V.A.), coronary insufficiency, myocardial infarction, congestive heart failure and blindness.

Rose and Kay³ list the individual factors which may determine blood pressure as follows:

1. **Sex:** Blood pressure tends to be higher in males than in females until the age of 55 after which the reverse is true. At all ages, females with hypertension fare better than males.¹⁸
2. **Age:** Blood pressure is higher in older

individuals. Diastolic blood pressure increases until about age 50 then levels off. Systolic blood pressure tends to rise more abruptly in later life due to aortic atherosclerotic changes.

3. **Race:** Higher blood pressure is more common in blacks.

4. **Family History:** Genetic factors determine both high and low blood pressure patients. If a family member has hypertension, the chances of a close relative having high blood pressure are increased.

5. **Salt Intake:** In some people, a high salt intake may increase the chances of having high blood pressure.

6. **Weight:** The rise in blood pressure with age is greater in obese individuals.

The diagnosis of hypertension in a given patient must be made by a physician, frequently over a period of time and involving several blood pressure measurements. The blood pressure measurement itself is subject to many influences including body position, diurnal variation (higher in afternoon and evening than morning), patient's mental state (raised by anxiety), arm circumference of the patient (fat upper arms give higher readings) and observer bias.

Medical treatment of patients with uncomplicated essential hypertension usually consists of starting with drugs least likely to produce side effects (e.g. beta-adrenergic blocker or a thiazide diuretic). More vigorous treatment (e.g. additional medication with hydralazine, captopril or a calcium channel blocker) is usually reserved for patients with serious hypertension in whom milder forms of therapy have failed. Once treatment of essential hypertension has been started, it must be continued with good medical supervision. This usually involves check-ups at regular intervals with the patient's physician monitoring the response to treatment. The frequency of these check-

TABLE 2

Follow-up Criteria for First-Occasion Measurement²²

Range, mm Hg	Recommended Follow-up*
Diastolic	
< 85	Recheck within 2 yrs.
85-89	Recheck within 1 yr.
90-104	Confirm promptly (not to exceed 2 mos.)
105-114	Evaluate or refer promptly to source of care (not to exceed 2 wks.)
≥ 115	Evaluate or refer immediately to a source of care
Systolic, when diastolic BP is < 90	
< 140	Recheck within 2 yrs.
140-199	Confirm promptly (not to exceed 2 mos.)
≥ 200	Evaluate or refer promptly to source of care (not to exceed 2 wks.)

*If recommendations for follow-up of diastolic and systolic BPs are different for those aged 18 years or older, the shorter recommended time period supersedes and a referral supersedes a recheck recommendation.

²² The 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure. Arch. Intern. Med. Vol. 144, May, 1984, 1045-1057.

ups (once control is established) can sometimes be an indication of the severity of the problem.

Most patients with hypertension are *asymptomatic* and are picked up on routine examinations of apparently healthy people.¹⁹ Once high blood pressure has been diagnosed, vague symptoms of headache, dizziness, easy fatiguability, vertigo and palpitations develop in a large number of patients. These symptoms may be functional in origin. With severe hypertension, a throbbing sub-occipital headache may be present when the patient awakens in the morning but it disappears spontaneously after several hours. Epistaxis (nose-bleeds) is common in severe hypertension.³

Special Considerations

Patients with known hypertension should have a blood pressure reading taken at the first appointment. In the event of a prolonged treatment plan, this could be repeated at appropriate intervals. This serves as a baseline from which to make decisions for the emergency management of the patient should an untoward systemic reaction occur later during dental treatment. It also serves as a check that the patient is in good control.

Reduction of anxiety is of particular importance in these patients as stress can cause the release of significant amounts of endogenous adrenaline. Anxiety can be reduced by premedication with diazepam (Valium®) the night before and the day of the dental appointment and by establishing a good rapport with the patient. Short morning appointments are preferable and the patient should not be overstressed with complicated procedures.

Many antihypertensive drugs have, as a side effect, a tendency to produce orthostatic hypotension so that sudden changes from a supine to an upright position should

be avoided. The dental chair should slowly be returned to an upright position and the patient supported until it is clear that he has good balance.

Antihypertensive drugs such as propranolol, may potentiate the response to certain vasoconstricting drugs, so that epinephrine should be used with caution, on these patients.

It is very important that good anaesthesia be obtained so the same precautions outlined for patients with ischaemic heart disease should be followed, i.e. aspirating syringe, inject slowly, use of minimum amounts of L.A. compatible with effective anaesthesia. A local anaesthetic with epinephrine in a concentration of 1:200:000 should be adequate for most procedures. It is particularly important to avoid gingival packing materials containing a vasopressor (e.g. raccord®) and the use of vasopressors to control local bleeding.⁴

The Role of the Dental Profession

Because many dentists have been adequately trained in blood pressure measurement, and because some patients tend to visit their dentist more frequently than their physician²⁰, dentists are being encouraged to measure, record and interpret blood pressure measurements on all new patients.^{19,21,4,20} A Berger Co., N.J.²⁰ study undertaken in 1973 demonstrated that an estimated 10 per cent of adults have undetected or untreated hypertension. Twenty dentists participated in the project on 1,343 private dental patients. Although the reaction from all concerned was overwhelmingly favourable, two problems were noted by the participating dentists (1) the procedure was time consuming and disruptive to normal office routine (although it seemed to fit better into a prophylaxis appointment with the hygienist) and (2) a reluctance to refer patients to physicians,

which may have been the result of the dentist's unfamiliarity with the procedures involved.

However, any doubts that participating dentists may have had were dispelled by their patients' reactions. Patient confidence in the dentist was strengthened and most physicians viewed the referral as a constructive contribution to public health. In this study, 126 patients had sustained elevated blood pressure readings – and only seven of these were false positives. It seems unlikely therefore that anxiety caused by the dental environment contributed significantly to an abnormally high reading. It is known that blood pressure depends on the circumstances of the measurement and is higher in anxious subjects.¹⁹ Normal individuals may develop very high readings under stress and medical and dental appointments are very stressful procedures for some patients. However, though it is recognised that these variables can contribute to a transient elevation in pressure in an otherwise normal patient, it is still wise to refer these patients for evaluation.

Significance of the Blood Pressure Measurement

Those with blood pressures (B.P.) between 140/90 mm Hg and 160/95 mm Hg are categorised as *borderline hypertensives*. Currently there is no way of determining in which patients higher pressures will develop. *Isolated systolic hypertension* is usually defined as systolic pressure greater than 160 mm Hg with a diastolic pressure below 90 mm Hg. This is the more common form of hypertension in the elderly owing to decreased aortic compliance. *Labile hypertension* is a condition in which blood pressure fluctuates between normal and abnormal levels. However, it must be remembered that blood pressure measurements can vary widely over several measurements in both normal and hypertensive patients as discussed earlier.

Patients with labile hypertension or isolated systolic hypertension who are not treated should have regular follow-up examinations because of the frequent development of progressive and/or sustained hypertension.

The Joint National Committee on Detection, Evaluation and Treatment²² of high blood pressure has recommended:

Mild Hypertension – The benefits of drug therapy seem to outweigh any known risks from such therapy for those with a diastolic blood pressure persistently elevated above 95 mm Hg and for those with lesser elevations who are at high risk (e.g. patients with target organ damage, diabetes mellitus, or other major risk factors for coronary heart disease). For those with diastolic BPs in the

TABLE 3
Follow-up Criteria for Second-Occasion Measurement²²

Range, mm Hg	Recommended Follow-up*
Diastolic	
< 85	Recheck within 2 yrs.*
85-89	Recheck within 1 yr.
≥ 90	Evaluate or refer promptly to a source of care
Systolic, when diastolic BP is < 90	
< 140	Recheck within 1 yr.
≥ 140	Evaluate or refer promptly to a source of care

*If recommendations for follow-up of diastolic and systolic BPs are different for those aged 18 years or older, the shorter recommended time period supersedes and a referral supersedes a recheck recommendation.
 +Rechecking within one year is recommended for persons at increased risk of progressing to higher BPs, including family history of hypertension or cardiovascular event, weight gain or obesity, black race, use of an oral contraceptive and excessive ethanol consumption.
⁽²²⁾ The 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure. Arch. Intern. Med. Vol. 144, May, 1984, 1045-1057.

90- to 94-mm Hg range who are otherwise at low risk, nonpharmacologic therapy should be pursued aggressively while BPs are carefully monitored.

Data from the Hypertension Detection and Follow-up Program (HDFP)²² suggest that if the diastolic BP remains above 90 mm Hg, despite non-pharmacologic therapy, antihypertensive drugs should be started. Other authorities, however, would delay specific drug therapy in this group if BPs are not consistently above 94 mm Hg and if there is no evidence of target organ disease or other risk factors for cardiovascular disease (i.e. male sex, cigarette smoking, hypercholesterolemia or diabetes mellitus). Physicians who elect not to use drug therapy for patients with diastolic BPs in the 90-94 Hg range should follow-up these patients' conditions as closely as if they were on pharmacologic therapy because many will progress to higher levels of diastolic BP that all agree should be treated with antihypertensive agents.

The Committee has chosen the diastolic BP as the basic for confirming high blood pressure and recommending disposition since the benefits of treatment of systolic pressure are unclear.

It is the physician's decision as to whether a given patient needs active treatment. Williams and Braunwald⁸ say that a reasonable guideline would be that all patients with diastolic pressure repeatedly above 90 mm Hg should be treated unless some specific contra-indications exist.

The Committee further states that all health care professionals should be strongly encouraged to routinely take a patient's blood pressure regardless of the reason for the patient's visit. The subject should be clearly informed that a single elevated reading does not constitute a diagnosis of high blood pressure but it is a sign that further evaluation is required. It is recommended that if either systolic or diastolic pressure are at or above 200/115, the patient should be referred for immediate medical evaluation and treatment. (See Tables 2 and 3).

Dental Management

PATIENTS WHO ARE EITHER UNAWARE OF THEIR HYPERTENSION, AWARE BUT NOT TREATED OR TREATED BUT UNCONTROLLED, MUST BE MANAGED ON THE FOLLOWING:

1. The level of the diastolic blood pressure recording (see Table 4).
2. Presence of other risk factors such as previous myocardial infarct or stroke.
3. The need for dental treatment.

In most cases medical consultation and advice will be needed prior to routine dental treatment. Emergency situations may be best treated in a hospital dental department

where practical or by conservative dental treatment, e.g. antibiotics and analgesics if appropriate.

IF THE PATIENT IS IN GOOD CONTROL AND HAS NOT DEVELOPED OTHER SIGNIFICANT COMPLICATIONS, any indicated dental treatment can be carried out provided the precautions discussed are utilised. A telephone call or letter to the patient's physician to confirm his cardiovascular status and medication and to outline the proposed dental management may be an advisable precaution.

Summary

Little and Jakobsen²¹ have summarised the best management of the hypertensive patient as follows:

1. Having morning appointments.
2. Not being in the dental chair more than one hour.
3. Being dismissed if he becomes overstressed during a dental appointment.
4. Reducing the stress and anxiety related with dental treatment by creating an office environment where he can express his fears and concerns.
5. Establishing what medications the patient is receiving.
6. Being aware of drug interactions between medications that the patient is being treated with and agents that are normally used during dental treatment. If significant drug interactions could occur, you must learn to select a different form of treatment or to modify the dosage of the agent you plan to use in order to avoid a significant reaction in your patient.
7. Being aware of the important side effects of the drugs and avoiding them when possible.
8. Communicating with a physician concerning:
 - i. referral of patients identified as possibly being hypertensive for diagnosis and treatment;
 - ii. seeking comments from the physician

concerning your plan of dental treatment.

Conclusion

It is essential to identify patients with uncontrolled severe hypertension in order to modify dental treatment to avoid precipitating a C.V.A. or myocardial infarction. It would be *ideal* to identify all patients with hypertension so that adequate medical treatment can be instituted and dental treatment modified as needed.

Because of longer life expectancy, more and more patients with significant C.V.S. problems are presenting to dentists for dental care. Appropriate dental management must include an appreciation of the patient's medical condition, its impact on any proposed dental treatment and consultation with the patient's physician where appropriate.

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TABLE 4

Dental Management Considerations²³

	EMERGENCY TREATMENT	ELECTIVE TREATMENT
Stratum III, ≥ 115 mm Hg	Consult	Consult
Stratum II, 105-114 mm Hg	Either consider consultation* or provide treatment	Refer and consult
Stratum I 95-104 mm Hg	Provide treatment and refer	Either consider consultation* or provide treatment and refer
90-94 mm Hg	Provide treatment and refer after verification	Provide treatment and refer after verification

*The presence of additional risk factors including a history of severe cardiovascular, pulmonary, or renal disease or a previous diagnosis of hypertension may suggest withholding treatment at these points until after medical consultation.

Timothy F. Meiller and C. Daniel Overholser

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INFECTIVE ENDOCARDITIS PROPHYLAXIS DURING DENTAL PROCEDURES

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ABSTRACT

Some 348 Canadian dentists answered a survey concerning current practice for infective endocarditis prophylaxis during dental procedures. Our results indicate that 87 per cent of dental surgeons question their patients on their cardiac status and treat a mean of 15.8 cardiac patients a year. There is no agreement among dentists concerning which cardiac pathology and which dental manipulations require premedication. The most common prophylaxis includes penicillin as the first choice and erythromycin as the alternative drug, in accordance with the recommendations of the American Heart Association. Prophylaxis is started more than two hours before the dental procedure by 47 per cent of the dentists, and is prescribed for three days or more in 63 per cent of the cases.

Our results indicate that the information given by the patient is still the most practical means of establishing the need for anti-bioprophyllaxis, and that it depends greatly on the information given to the patient by the physician who established the diagnosis of cardiac pathology. Therefore, it is essential that the physician informs his patient on his cardiac status as well as on the risks of most dental procedures if no anti-bioprophyllaxis is given.

SOMMAIRE

On a soumis à 348 dentistes canadiens un questionnaire portant sur les mesures prophylactiques qu'ils prennent actuellement lorsqu'ils traitent des patients souffrant d'un endocardite infectieuse. D'après leurs réponses, 87 pour cent des chirurgiens dentaires interrogent leurs patients au sujet de leur santé cardiaque et, en moyenne, ils traitent chaque année 15,8 patients avec des problèmes cardiaques. Les dentistes ne s'accordent pas pour savoir quelles affections cardiaques et quelles procédures dentaires exigent des soins médicaux. La mesure prophylactique la plus fréquente est, conformément aux recommandations de l'American Heart Association, l'administration de pénicilline ou, si le patient ne la tolère pas, d'érythromycine. Dans 63 pour cent des cas, les dentistes prescrivent les mesures prophylactiques pendant trois jours ou plus et 47 pour cent d'entre eux commencent à administrer les soins prophylactiques plus de deux heures avant le début du traitement dentaire.

Toujours d'après les réponses obtenues, les renseignements donnés par le patient restent le moyen le plus pratique de savoir s'il a besoin d'antibiotiques comme mesure prophylactique. Par ailleurs, les renseignements que le patient donne dépendent largement

de ceux qu'il a reçus du médecin qui lui a diagnostiqué une affection cardiaque. C'est pourquoi il est essentiel que le médecin indique bien au patient l'état de sa santé cardiaque ainsi que les risques auxquels il est exposé durant la plupart des traitements dentaires s'il ne reçoit pas d'antibiotiques.

Most dental procedures (prophylaxis, restorations, endodontia, extractions etc.) induce transient bacteremia, during which a variety of microorganisms, particularly streptococci of the viridans group, are isolated. In most individuals, these bacteria are rapidly eliminated from the blood by natural defence mechanisms. However, in patients with congenital heart disease, valvular lesions or prosthetic heart valves, transient bacteremia may lead to infective endocarditis (IE). Indeed, damaged valves or endocardium are susceptible to microorganism colonization. From our previous work,^{1,2} the oral cavity was targeted as the point of entry in 30 per cent of cases of IE and dental manipulations were the most commonly recognized predisposing factor. In 1977, the American Heart Association (AHA)³ published new guidelines for prevention of IE in individuals at risk. Recently these have been revised in a statement made by the Committee on Rheumatic Fever and Infective Endocarditis.⁴

The purpose of this article is to establish the current practice of prophylaxis for bacterial endocarditis among Canadian dental surgeons, and secondly, to evaluate the main difficulties encountered in the application of the AHA guidelines.³

MATERIAL AND METHODS

A survey concerning antibioprophyllaxis during dental manipulations was distributed to dental surgeons attending the joint convention of L'Ordre des Dentistes du Québec and the Canadian Dental Association, held in Montreal in April 1984. The 20-question survey was previously approved by the members of the committee on prevention of infections of the Montreal Heart Institute.

A total of 348 questionnaires, filled out during the convention or received by mail before the compiling date, form the basis of this study. Data were computerized for analysis. Since some answers were omitted by respondents and more than one choice given to the same question, total responses do not always add up to 100 per cent.

RESULTS AND COMMENTS

This survey, written in French and English, was filled out mainly by dental surgeons working in private practice (83 per cent) as general practitioners (80 per cent) in rural or urban areas, with a mean of 13 years of professional practice. This is comparable with the results obtained in the study by Brooks.⁵

Question I

Do you routinely ask every new patient whether they have or have had:

- a cardiac malformation?: 89 per cent yes
- a heart murmur?: 87 per cent yes
- rheumatic fever?: 92 per cent yes
- cardiac surgery?: 90 per cent yes

Comments

This problem seems of high interest to the dentists since nearly 90 per cent of them question their patients on their cardiac status. There is no significant difference in regard to the cardiac problem searched for. The results obtained in two recent surveys published in the medical literature indicate that 93 per cent of the dentists in Durak's⁶ and Brooks'⁵ studies ask their patients if they have a heart murmur. On the other hand, the percentage of dentists questioning their patients on rheumatic heart disease is high in all three surveys (Brooks – 100 per cent, Durak – 93 per cent, our results – 92 per cent).

Question II

For which cardiac pathology do you use antibioprophyllaxis

- cardiac malformation: 51 per cent
- valvular heart murmur: 62 per cent

- previous rheumatic fever: 92 per cent
- prosthetic heart valves: 83 per cent

Comments

Patients suffering from congenital heart disease constitute, almost without exception (i.e., uncomplicated secundum atrial defect), a group at risk of developing IE. This notion seems misunderstood by dentists surveyed since 49 per cent of them do not premedicate patients who have cardiac malformations. It is possible that the relative rarity of congenital heart diseases accounts for the lack of knowledge concerning the need for antibioprophyllaxis. As for the presence of heart murmurs, all these patients require premedication, but dentists in our survey refrain from it in 38 per cent of cases. In the past, rheumatic fever has been a frequent cause of cardiac pathology; this could be the reason why medical and dental students still study this disease intensively, even though it is now less frequent. This awareness also explains why most dentists in all three studies recognize that these patients are a group at risk for IE (Brooks,⁵ 100 per cent, Durak,⁶ 93 per cent, our results, 92 per cent).

On the other hand, the number of patients with prosthetic heart valves is increasing and since their antibioprophyllaxis regimen is different from that used in other groups, according to AHA guidelines,³ it is important for dentists to be aware that it is mandatory to adequately premedicate these patients. The decreasing number of patients suffering from rheumatic heart diseases and the increasing number with prosthetic heart valves, represent changing aspects of the epidemiology of IE. Nevertheless, the majority of patients needing antibioprophyllaxis are those with native valve disease. The optimal approach for patients with a prosthetic heart valve who require dental treatment has not yet been precisely established.

Question III

Do patients with a cardiac pathology know the relationship between dental procedures and the risk of developing bacterial endocarditis?

- Never: 4 per cent
- Sometimes: 73 per cent
- Frequently: 22 per cent

Question IV

If they know about this relationship, who told them?

- Dentist: 34 per cent
- Physician: 87 per cent
- Other: 2 per cent

Comments

Since few patients are aware of this important problem, physicians should make an effort to inform precisely their patients with

congenital or valvular heart diseases on the indication of antibioprophyllaxis before undergoing dental procedures. For example, at the Montreal Heart Institute, all patients at risk are visited by a nurse who instructs them personally and then gives written comments on this problem as published in the Nursing Clinic of North America.⁷ It would be useful to evaluate how patients understand these often complex notions.

Question V

When you recommend premedication to your patients with a cardiac pathology, what is the patient's usual reaction?

- The patient accepts: 79 per cent
- The patient wishes to consult his physician first before accepting premedication: 12 per cent
- The patient is unwilling to accept the antibioprophyllaxis because his physician told him his "heart murmur" was no problem: 6 per cent
- The patient is unwilling to accept the antibioprophyllaxis because his previous dentist did not premedicate him: 3 per cent
- Other: 1 per cent
- No answer: 7 per cent

Comments

These results confirm the patient's confidence in the dentist of his choice.

Question VI

How many cases with a cardiac pathology do you treat yearly?

- 77 per cent treat 0 to 59 cardiac patients each year for an average of 15.8 ± 13.5 (SD) patients per year
- 5 per cent treat more than 59 patients with heart disease each year
- no answer: 18 per cent

Comments

The mean value obtained, 15.8 patients per year, represents the number of cardiac patients aware of their pathology. Since this problem is relatively frequent for a dentist, he should know the guidelines to follow for these patients. However, it is generally accepted that the actual number of cardiac patients is much higher than that evaluated by patient questioning, since many individuals ignore their cardiac condition.⁸

Question VII

Some common dental procedures are listed. Please indicate whether or not you routinely premedicate cardiac patients for:

- dental prophylaxis: 56 per cent yes
- restoration: 36 per cent yes
- root canal treatment: 66 per cent yes
- extraction: 92 per cent yes
- all other procedures causing gingival bleeding: 81 per cent yes

Comments

Dentists are well aware of the necessity for prophylaxis for cardiac patients during dental extractions, but it is less well recognized for other dental manipulations, even though there should be no distinction between the procedures listed above, because each one is potentially associated with gingival bleeding and transient bacteremia. For example, the incidence of bacteremia following dental prophylaxis is estimated at 40 per cent.⁹

Question VIII

Premedication:

- I decide when premedication is indicated and I prescribe: 57 per cent
- I ask a physician to decide whether premedication should be given and I prescribe if necessary: 45 per cent
- I ask a physician to decide whether premedication should be given and I ask him to prescribe it if necessary: 8 per cent
- No answer: 6 per cent.

Comments

Our study indicates that dentists usually take the initiative for antibioprophyllaxis. Furthermore, dental school curriculum includes lectures on antibiotics pharmacology and on the indications for antibioprophyllaxis. Some dental surgeons who usually prescribe antibioprophyllaxis may in some complex cases refer the patient to a physician. This may explain why many dentists gave two answers. It is noteworthy that 46 per cent of dentists in Brooks's⁵ and almost 50 per cent in Durak's⁶ study consulted a physician before giving prophylaxis to the patients; our results (53 per cent) are thus comparable.

Question IX

- If you consult a physician, how do you do it?
- By telephone: 79 per cent
- By referring the patient: 21 per cent

Question X

If you consult a physician, what is the general reaction of physicians to your questions about the need for premedication?

- The reply is prompt: 54 per cent
- The reply is unequivocal either for or against premedication: 32 per cent
- The reply is equivocal (do it if you think it is necessary): 16 per cent
- The reply is sometimes delayed several weeks: 2 per cent
- The physician resents being asked this question: 2 per cent
- No reply is sent: 0 per cent
- No answer: 11 per cent

Comments

Most of the time, the dentist himself (question I) or after contacting a physician (ques-

tion IX) establishes the diagnosis of a cardiac pathology on the basis of patient information, without any objective medical examination. The result obtained from question X confirms the fact that communication between dentist and physician is adequate. In the majority of cases, the reply is prompt and precise. In the study by Brooks,⁵ 57 per cent of dental surgeons found that the reply from physician was equivocal.

Question XI

When you premedicate, what antibiotic do you use (first choice) and what alternative drug do you use for those who cannot take your first choice (as in case of allergy)?

	First choice	Second choice
Cephalosporins	1%	0%
Erythromycin	8%	68%
Lincomycin	0%	0%
Penicillins	84%	2%
Spiramycin	2%	1%
Streptomycin	1%	7%
Tetracyclins	2%	7%
Vancomycin	0%	0%
No answer	2%	19%

Comments

Penicillins are preferred in all three surveys (Brooks – 86 per cent,⁵ Durak – 84 per cent⁶ our study – 84 per cent) as recommended by all prophylaxis regimens. For second choice, erythromycin is a judicious alternative drug in our study; this drug was chosen by 68 per cent of the dentists questioned. The fact that tetracyclins were chosen by 7 per cent of our dentists and by as many as 46 per cent in the study by

Durak deserves additional comment. These bacteriostatic antibiotics are known to induce a high incidence of resistant streptococci and are *not appropriate for prophylaxis*.

Question XII

When your first choice is using either penicillin or erythromycin, what is the adult posology that you use? (Table I).

Comments

Most dentists prescribe these antibiotics every six hours (228/266 – 86 per cent) even though 6 per cent (17/266) use a four-hour interval or less and 8 per cent prescribe the medication every 8 to 12 hours. These approaches seem comparable and generally conform to the AHA guidelines.³ However, the majority of dentists (57 per cent) prescribe total daily doses of penicillin or erythromycin which are suboptimal when compared to these guidelines.³

Question XIII

For your first choice, what route of administration is used?

- per os: 88 per cent
- intramuscular: 2 per cent
- intravenous: 9 per cent
- no answer: 11 per cent

Comments

Antibioprophyllaxis is usually given orally. This route of administration is simple and adequate in most of the cases; a large majority of patients presenting with native valve diseases. Since the advantages of parenteral antibioprophyllaxis are presently recognized for patients with prosthetic heart valves, these patients should preferably be treated in a hospital clinic rather than the dentist's private office. However, few dentists have access to such facilities (11 per cent). Finally, it is important to know that the intramuscular route is not recommended for patients using oral anticoagulants, which are required with some types of prosthetic valvular devices.

Question XIV

How long before the procedure do you give the first dose?

- 30 minutes: 9 per cent
- 1 hour: 33 per cent
- 2 hours: 3 per cent
- 4 hours: 2 per cent
- 1 day: 21 per cent
- 2 days: 20 per cent
- More than 2 days: 4 per cent
- No answer: 9 per cent

Comments

From these answers, it appears that the modalities of application are not well understood. In fact, 47 per cent of dentists start

TABLE I

Number of dentists recommending and prescribing posologies of penicillins and erythromycin for the anmtibioprophyllaxis of infective endocarditis during dental work

Doses (mg)	Intervals (hours)	Number of Dentists Prescribing	
		Penicillins	Erythromycin
250	4	8	1
	6	113	10
	8	7	1
	12	1	0
500	4	3	2
	6	95	8
	8	10	1
1000	2	1	0
	4	2	0
	6	2	0
	8	1	0
TOTAL		243	23

premedication more than two hours before dental manipulation. When compared with Durak's study, in which 73 per cent of dentists started antibiophylaxis one day or more before dental procedure, our results are more encouraging (45 per cent). This approach has the disadvantages of changing the oral flora, since most penicillin-sensitive streptococci are replaced after 48 hours of medication by streptococci resistant to this antibiotic.¹⁰ Antibiophylaxis should therefore be started no more than one hour before the manipulation.

Question XV

What is the total duration of the antibiophylaxis?

- 6 hours: 1 per cent
- 1 day: 1 per cent
- 2 days: 26 per cent
- 3 days: 19 per cent
- 4 days: 18 per cent
- more than 4 days: 26 per cent
- no answer: 9 per cent

Comments

The total duration of antibiophylaxis also seems to be only partly understood. In fact, the use of antibiotics during four days or more does not conform to a prophylactic approach. In addition to higher costs, this prolonged use may be associated with various side effects. This fact was also misunderstood by most dental surgeons surveyed by Durak (87 per cent).⁶

Even if the "ideal prophylaxis" was available, only part of all IE cases would be prevented for two main reasons: first, only 50 per cent of all patients at risk know about their precise cardiac status and, second, only 20 per cent of patients with IE have had a dental procedure as the initiating event. Kaye estimates that only 7 per cent of IE cases could be prevented by applying the AHA guidelines.³ However, very few cases of prophylaxis failure have been reported when these guidelines were followed. A survey of IE prophylaxis failure based on letters sent to the AHA and the Infectious Disease Society of America has been established.¹¹ Of the 25 cases of prophylaxis failure, it has been noted that 88 per cent followed dental manipulations, and that alpha-hemolytic streptococci were the causative organisms in 91 per cent of these cases.

Question XVI

Which of the following kinds of advice do you give to your cardiac patients?

- Do not use toothpicks: 15 per cent
- Do not use mechanical dental hygiene armamentarium (Water Pic, Stimudent, etc.): 9 per cent
- Do not use dental floss: 3 per cent
- Consult dentist at least once a year, even

if patient wears complete dentures: 50 per cent

Comments

Patients at risk of developing IE should maintain a high level of oral hygiene. Use of toothpicks may cause gingival trauma. Therefore, if used, they should be cautiously manipulated or, preferably, replaced by a good quality toothbrush. Mechanical devices using water pressure for cleaning between teeth (Water Pic) and dental floss may enhance hygiene but may also produce bacteremia; however, up to the present, no IE episode has been associated with the use of such instruments. For patients at risk of developing IE, especially if dental hygiene is poor, it seems preferable to restrain their use.⁷ Patients with ulcers caused by badly fitted dentures must be treated rapidly. It has been shown that these lesions can lead to bacteremia.^{12,13} Consequently, it is better for these patients to consult their dentist once a year, even if they have complete dentures.

Question XVII

Concerning bacterial endocarditis following dental procedures, do you think that premedication has been proven effective by a double blind study?

- Yes: 71 per cent
- No: 17 per cent
- No answer: 12 per cent

Comments

Antibiophylaxis for prevention of IE has been established empirically.¹¹ Therefore, the right answer to this question is "No". Despite the fact that no proof of validity has been established for this prophylaxis, the high mortality and morbidity of IE warrant any intervention from the dentist which may protect his patients, especially if its usefulness appears logical.¹⁴ Attempts to initiate a double blind study have been aborted for three main reasons: 1) the low incidence of IE following dental extraction in a population at risk (evaluated between 1/500 and 1/3,000), 2) the great number of patients required to compare two regimens (antibiotics vs. placebo), and 3) the unacceptability on medical grounds of studies incorporating placebos for the prevention of a pathology with a well recognized high level of mortality and morbidity.⁸ The animal model widely used for testing the efficacy of antibiophylaxis (rabbit harbouring a catheter in the heart by which a bolus of 10^8 bacteria of one species is injected) resembles prosthetic heart valve infection rather than native valve endocarditis, the latter having a higher prevalence. Furthermore, Bisno, a member of the committee responsible for the AHA guidelines, recommends caution in extrapolating to humans the results

obtained with rabbits.⁸ From these remarks, one should question the use of antibiophylaxis, which exposes a patient to the hazards of allergic and toxic reactions, while its effectiveness has never been demonstrated. Some researchers agree that a double blind study should be performed and thus deny prophylaxis to a certain number of patients at risk.¹⁵ On the other hand, others suggest prophylaxis even to normal subjects.¹⁶ However, most authorities accept AHA guidelines,³ even if no final proof of effectiveness has yet been established.

Finally, the exact meaning of the term 'double blind study' (comparison of effectiveness of a drug vs that of a placebo, the treatment being unknown both by the patient and the observer) may also explain, at least in part, the results obtained in one survey.

Question XVIII

Do you know a scientific journal discussing the problem of antibiophylaxis of IE during dental procedures?

- 30 per cent of dentists answered "yes"
- 22 per cent could specify the reference

Question XIX

Your last reading on this subject was:

- within the last 6 months: 23 per cent
- 6-12 months ago: 20 per cent
- more than 1 year ago: 47 per cent

Comments

Major dental publications should summarize the standards of IE prophylaxis. This could be done by presenting a simple chart covering the majority of situations the dental surgeon in private practice may face. This chart could be kept by the dentist for immediate reference. This topic could also be discussed more frequently in scientific meetings for dentists.

Question XX

Was the dentist's role in IE prevention discussed in your dental school curriculum?

- No: 3 per cent (1952)*
- Yes, briefly: 31 per cent (1969)*
- Yes, on many occasions: 55 per cent (1974)*
- No answer: 11 per cent
- * Mean year of graduation

Comments

There has been a greater coverage of this problem in dental schools in the last decade.

Recommendations for Prevention of Infective Endocarditis: This is a summary of the guidelines proposed to physicians and dentists working at the Montreal Heart Institute.

Endocarditis prophylaxis in cardiac patients is recommended for dental procedures that may lead to gingival bleeding,

and the regimen differs for the following groups: 1) patients with prosthetic heart valves; 2) other patients to whom antibioprophyllaxis is suggested, including mainly the majority of congenital heart diseases, valvular pathology secondary to rheumatic fever or other acquired valvular lesions, mitral valve prolapse syndrome, idiopathic hypertrophic subaortic stenosis and a previous episode of IE. For patients with native valve disease, an oral prophylaxis (PO) consisting of penicillin V, 2 g, one hour before the dental procedure, followed by 1 g six hours later, is suggested. For patients who are allergic to penicillin, erythromycin 1 g PO, one hour before the dental procedure, is used followed by 500 mg PO six hours later. The prophylaxis for patients with prosthetic heart valves includes aqueous crystalline penicillin G, administered intramuscularly (IM) or intravenously (IV), in a total dose of 2,000,000 IU, together with 600,000 IU of procaine penicillin G intramuscularly, 30-60 minutes before the dental procedure. The patient should also receive 1 g of penicillin V PO six hours later. For patients allergic to penicillin, the alternative antibioprophyllaxis is 1 g of vancomycin IV, 60 minutes before dental procedure, followed by erythromycin 500 mg PO six hours later. Finally, when it is unclear whether the patient's condition requires prophylaxis, the dental surgeon or the physician should make the decision in accordance with the clinical status of the patient.

CONCLUSION

Our results and those obtained by Brooks⁵ and Durak⁶ indicate the desire of dental surgeons to use all available methods in an effort to prevent IE as a consequence

of dental procedures. However, the practical use of antibiotic prophylaxis (indications, route of administration, duration, etc.) is not fully understood by the group of dentists surveyed. Since the decision to give antibioprophyllaxis is mainly based on information provided by the patient, it appears essential that the latter be fully informed by his/her physician on cardiac status. To increase diffusion of appropriate guidelines, we suggest that major dental journals periodically publish these guidelines.

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CLOTRIMAZOLE TROCHE

(BAY b5097) IN THE TREATMENT OF OROPHARYNGEAL CANDIDIASIS AND THE EVALUA- TION OF THE TEST-STRIP, MICROSTIX-CANDIDA

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ABSTRACT

Clotrimazole in a troche form was made available to treat patients with oropharyngeal candidiasis. A group of patients, most of whom were debilitated and under active treatment for cancer were selected. About 90 per cent had improved symptoms and more than 60 per cent were cleared of culturable organisms within the trial period. A test-strip system, Microstix-Candida, was evaluated in parallel with standard culture techniques. This in-office test had an overall sensitivity of 0.928 and specificity of 0.988.

SOMMAIRE

On a obtenu du clotrimazole en comprimé pour traiter des patients souffrant d'une candidiase oropharyngée. On a choisi un groupe de patients dont la plupart étaient très faibles et se faisaient soigner pour le cancer. Dans 90 pour cent des cas, les symptômes se sont atténués et, dans plus de 60 pour cent des cas, les microorganismes cultivables ont disparu durant la période d'essai. On a vérifié un test avec bande, le Microstix-Candida, en le comparant aux techniques habituelles de culture. Le test effectué en cabinet a révélé une sensibilité globale de 0,928 et une spécificité de 0,988.

The yeast, *Candida albicans*, is a common finding in cultures taken from normal mouths.¹⁻³ Fortunately, this yeast has poor pathogenicity and its simple presence does not constitute infection. It was known as early as 1844 that a debilitated state is required before this organism can cause systemic

infection.⁴ It is now well recognized that one or more predisposing factors must be present in the host before the balance is tipped in favour of the organism; these factors may be local or systemic. In the oral cavity, local factors include decreased salivary flow, stagnation, topical antibiotics or steroids, and maceration.⁵ Some of the predisposing systemic factors are:⁶

1. Infancy or old age
2. Endocrine disturbance: (a) Diabetes mellitus, (b) Hypoparathyroidism, (c) Hypoadrenalism, (d) Steroid therapy, (e) Pregnancy.
3. Malnutrition
4. Severe blood dyscrasias
5. Terminal malignant disease
6. Postoperative debility
7. Antibiotic treatment
8. Radiation therapy
9. Cancer chemotherapy

There are a variety of common clinical manifestations of oral candidiasis. A well accepted classification has been presented by Lehner.⁷

1. Acute: (a) pseudomembranous moniliasis (thrush), (b) atrophic moniliasis (antibiotic sore mouth).
2. Chronic: (a) atrophic moniliasis (denture sore mouth), (b) hyperplastic moniliasis (candida leucoplakia).

The classical appearance of the pseudomembranous type of candidiasis is a white or bluish-white plaque that can be scraped off the mucosal surface with some difficulty, leaving a painful bleeding surface. There are usually no constitutional symptoms. Patients may complain of a burning sensation, bad taste or loss of taste discrimination. The essential feature of the acute atrophic variety is generalized redness of the

oral mucosa, often with no evidence of plaque formation. There may be patchy depapillation of the dorsum of the tongue. The mucosa appears raw and is painful. Chronic atrophic moniliasis appears as diffuse inflammation under maxillary prostheses, and it may be associated with angular cheilitis. Although there is no evidence that *Candida albicans* organisms are the primary etiologic agent in this chronic aggravating condition, there is general agreement that treatment of the infection is essential. Lastly, chronic hyperplastic moniliasis represents deep invasion of the mycelia into the mucosa accompanied by characteristic histopathologic alterations. Clinically it may be difficult to differentiate this form of candidiasis from other forms of leucoplakia. It is currently accepted that this form of infection may be precancerous.^{6,8,9}

As our population ages, dentists are encountering a growing number of patients who have one or more local or systemic predisposing factors for oral candidiasis. The diagnosis has customarily been made on history and clinical appearance. On occasion, smears or cultures are taken; rarely are serum antibody titres evaluated. It is sometimes awkward for the dentist in private practice to obtain cultures or to have smears read quickly. A simple, quick and reliable in-office test to support the clinical diagnosis would be of great assistance to dentists who are faced with the management of patients who may have one or another form of candidiasis.

The current accepted methods of treatment of oral candidiasis are nystatin in suspension, ointment or tablets dissolved in the mouth or vaginal suppositories melted in the

mouth. Although reasonably effective, each of these modes has its drawbacks, not the least of which is the rather unpleasant taste of the drug. In addition, nystatin tablets and suspension do not achieve good impregnation of the oral mucosa.¹⁰ Since prolonged therapy is necessary for eradication of the organism, patients often discontinue the drug before the treatment regimen is completed. Amphotericin B is also effective but this drug is reserved for serious cases and patients should be closely monitored as there are numerous unpleasant side effects.

Clotrimazole* is a well accepted antifungal agent that is effective against *C. albicans*. It has been used in treatment of skin infections, however, its principal value has been in gynecologic applications. Except for rare hypersensitivity to the drug itself, there are no contraindications to its use. Side effects are infrequent and, when they occur, most often consist of local irritation. Similar to most antifungal agents, clotrimazole requires direct contact with the fungus for maximum effect, and to facilitate this, a troche form of the drug has been developed. This formulation has been available for several years in some European countries and in the United States since 1984.

In 1975, Corcoran and associates¹¹ reported on a media impregnated polystyrene strip, Microstix-Candida⁺ (M-C).

* Canesten, Miles Laboratories Ltd., Rexdale, Ontario, Canada
+ Ames Division, Miles Laboratories Inc., Elkhart, Indiana, U.S.A.

The strip has a test area which contains modified Nickerson's medium, support nutrients and agents to inhibit bacterial growth. In the presence of *C. albicans* and some related organisms, the bismuth sulphite indicator is reduced, leaving dark-brown bismuth sulphide spots. Although these authors evaluated this test system for gynecologic use, they suggested that it might have application in dentistry for the detection of oral candidiasis. A short time later, the M-C strips were evaluated for oral use, especially for candidiasis associated with denture stomatitis.^{12,13} This test system was reported to have sufficiently high sensitivity to be recommended as an alternative to smears as a low-cost screening method for the diagnosis of Candida-induced denture stomatitis.¹²

The purpose of this study was to evaluate the troche form of clotrimazole in the treatment of patients with oral candidiasis. In addition, M-C strips were used in conjunction with smears and cultures at initial diagnosis and to monitor the effectiveness of the drug.

MATERIALS AND METHOD

Approval was obtained from the Health Protection Branch of Health and Welfare Canada to test the troche form of clotrimazole. The patients in this study were derived from a diverse population including many undergoing treatment for cancer. The cancer patients had a wide range of disease, for

which treatment included surgery, radiotherapy and antineoplastic drugs. Some patients had chronic disease which required prolonged steroid therapy. A few patients were healthy chronic denture wearers. Patients with possible oral candidiasis were referred to one of the authors (J.D.A.). Prior to acceptance, a medical history was obtained with particular reference to allergy to antifungal agents and a complete soft tissue oral examination was made. At this initial appointment, M-C tests and swabs for culture were taken from at least three oral sites, two of which were hard palate and buccal vestibule. Upon receipt of a positive culture, patients were started on clotrimazole troche 10 mg, five times per day, allowing each troche to dissolve in the mouth for 15-20 minutes. This regimen was followed for two weeks. At one week, termination of treatment, and two weeks post-treatment, each patient was re-examined. M-C and swabs for culture were taken from the same sites. At each examination all signs and symptoms were noted. Information regarding side-effects and a subjective evaluation of the troche were also obtained.

Swabs were taken using sterile cotton tipped applicators, placed in appropriate media and transported to a hospital microbiology laboratory. Gram stains were made and examined microscopically. Cultures were prepared on Sabouraud's agar. M-C were used according to manufacturer's direction. The M-C kit consists of polystyrene test strips individually sealed in a sterile package, sterile plastic pouches, water for rehydration, identification labels, instructions, and a colour comparison chart (Fig. 1). The mucosal site to be tested is scraped with a moistened tongue depressor and gently rubbed on the rehydrated reagent pad. The rehydrated pad can also be swabbed directly on the mucosal site. The test strip is placed in the clear plastic pouch and sealed after expelling as much air as possible and then incubated at 35-37°C for 24 hours. Incubation can be done at room temperature but the period will be extended to 72-96 hours. Strips placed in a shirt pocket were incubated in 24-48 hours. After incubation the pads were compared to the colour comparison chart. The presence of *Candida* species is indicated by a brown colour or any number of brown spots appearing on the culture area (Fig. 2).

RESULTS

Although this report represents the result of treatment of only 15 patients, the group represents cases of difficult clinical management. A major portion of the test group was composed of debilitated cancer patients receiving chemotherapy and/or radiotherapy and steroids. Eight patients were

TABLE I

The results of clotrimazole therapy and sensitivity of M-C compared to the swab and culture

Patient	Predisposing factors	Efficacy of clotrimazole treatment	M-C sensitivity	Symptoms
G.N.	1, 2, 6	Cleared 1 week Patient died	1.0	+
M.H.	5, 6	Improvement in week 2 Returned week 4	.875	+
J.V.	5, 6	Refractory (<i>T. glabrata</i>)	1.0	0
F.G.	5, 6	-ve week 1, +ve week 2 -ve week 4	1.0	+
F.R.	4, 5	Improvement in week 2	.778	+
P.L.	1, 2, 3, 6, 7	Refractory	.833	0
H.H.	4	Cleared 1 week	1.0	+
G.M.	1, 2, 4, 5, 6	Refractory	.933	+
W.B.	1, 3, 5, 6, 7	Cleared 1 week	1.0	+
M.S.	5, 6	Cleared 1 week	.5	+
H.G.	1, 6	Cleared 1 week	1.0	+
N.E.	1, 2, 4	Cleared 1 week	1.0	+
E.G.	4, 5, 6	Cleared 1 week	1.0	+
M.M.	1, 3, 6, 7	Cleared 1 week + week 4	1.0	+
P.W.	1, 2, 6	Refractory	1.0	+

Predisposing Factors 1) Metastatic disease, 2) Chemotherapy, 3) Radiotherapy, 4) Steroids, 5) Dentures, 6) Mucositis, 7) Xerostomia

Symptoms: + improved
0 no improvement
- worse

dentures, some of which were ill-fitting. New dentures were not fabricated. **Table I** indicates the result of clotrimazole therapy and the sensitivity of M-C compared to the swab and culture. The symptomatic response to clotrimazole troche therapy was often dramatic. Many patients reported that pain and discomfort decreased rapidly, often within 48 hours. Patients who had previous nystatin therapy routinely stated that they preferred the clotrimazole troche. Some patients with sensitive oral mucosa found the troche somewhat irritating as sharp edges formed as the tablet dissolved. Three patients not listed in **Table I** ceased therapy after less than one day. A 72-year-old female claimed her mouth was swollen after taking two tablets. She had a history of difficult management and complained about all drugs. A 78-year-old female denture wearer complained of a burning sensation, palpitations and decreased mental alertness. She was receiving chemotherapy and radiotherapy for advanced breast cancer. A 57-year-old male ceased treatment because his mouth was too dry and sore. He was undergoing radiotherapy for metastatic disease to brain, lung and abdomen.

The sensitivity* of M-C tests for each patient ranged from 0.5 to 1.0. The average sensitivity for all patients was 0.928. Patient M.S. had only two of six cultures positive at the initial examination. The M-C was positive on one of six. There was perfect correlation in all other tests for that patient. The average specificity** was 0.988. There was one false-positive for patient M.M. There was perfect specificity for all other patients.

Case Reports

H.H. is a 61-year-old caucasian female suffering from chronic asthma. For approximately one year prior to referral for clotrimazole therapy, she had soreness and tenderness of the throat. She was being treated with Ventolin and Beclovent in addition to steroid therapy. She wore no dental prostheses. Prior to referral she was using Mycostatin three times a day as an oral rinse and gargle, but there had been no improvement in her symptoms. Within 48 hours of commencing clotrimazole therapy the patient was relieved of her symptoms for the first time in over a year. Two months after discontinuation of the clotrimazole troche, her symptoms recurred.

J.V. is a 33-year-old caucasian male with complete upper and lower dentures. He had papillary hyperplasia of the palate and the area subjacent to the denture bases was markedly erythematous. He had been treated previously with hydrogen peroxide rinse and antibiotic therapy. On culture, *Candida albicans* and *Torulopsis glabrata* were isolated. Clotrimazole at the experimental regimen was not effective. Subsequently, there was success using Myco-

statin soaked gauze liners for the dentures. The patient kept these in place for one hour three times a day. It is felt by the investigators that a longer course or higher dose of clotrimazole may have alleviated his symptoms.

P.W. is a 68-year-old caucasian female with breast cancer. She suffered from oral and esophageal pain. There were large plaques of *C. albicans* on the tonsillar regions as well as the pharynx. Previous

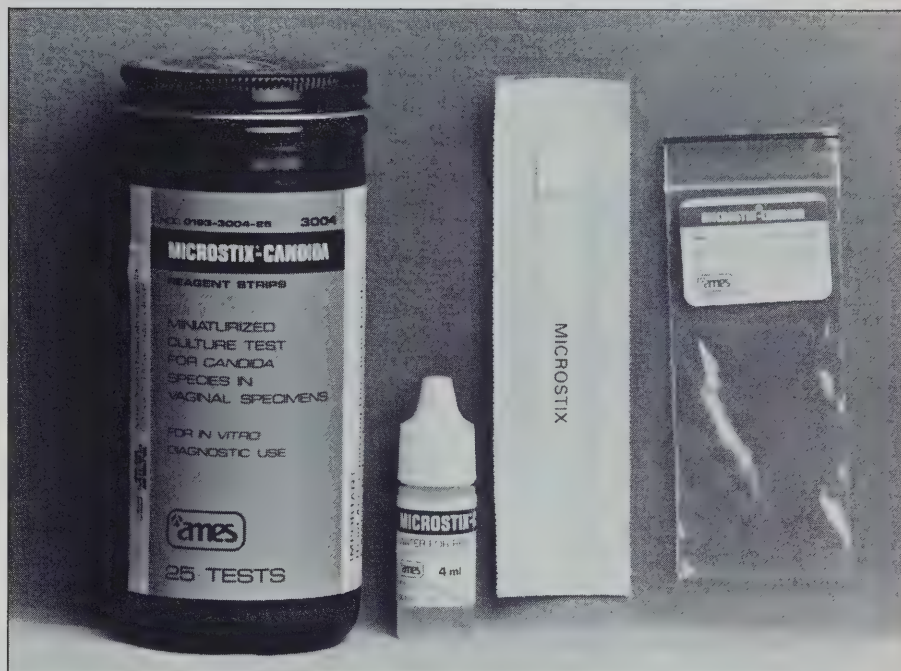


Fig. 1. The contents of the Microstix-Candida kit. A colour comparison chart is included on the label.

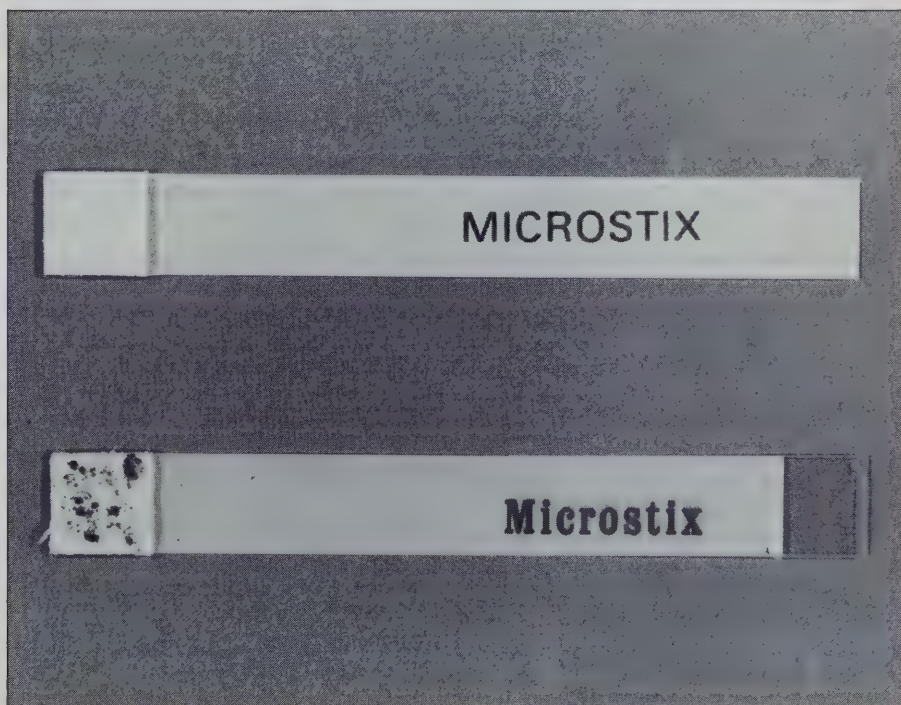


Fig. 2. Positive and negative tests.

* Sensitivity is a statistical index which indicates the capacity of a test to make a correct diagnosis in confirmed cases.

$$\text{Sensitivity} = \frac{\text{True Positive}}{\text{True Positive} + \text{False Negative}}$$

** Specificity is a statistical index which indicates the capacity of a test to make a correct diagnosis in confirmed negative cases.

$$\text{Specificity} = \frac{\text{True Negative}}{\text{True Negative} + \text{False Positive}}$$

nystatin therapy had no effect on the patient's symptoms. Ketoconazole therapy had caused nausea and vomiting and was suspended. One week after referral for clotrimazole therapy, the patient manifested no oral pain, and only slight esophageal tenderness. Her swallowing was markedly improved and the plaques had noticeably decreased. Oral mucosa changed from distinctly erythematous to a healthy pink. At the completion of the two-week course, the patient had been completely relieved of her symptoms, but, approximately two months after termination of treatment her symptoms recurred. The only medication which the patient used during the therapy was Provera 100 mg, PO, q.i.d.

DISCUSSION

Clotrimazole has proven to be clinically effective against a wide range of organisms. It is particularly useful in the treatment of *C. albicans* infections. The ability to penetrate into deeper layers of skin with minimal systemic uptake is a positive factor in clinical application.¹⁴ Although high oral doses (60 mg/kg body weight) for the treatment of systemic candidiasis were associated with side effects and clinical laboratory changes,¹⁵ the only study¹⁰ describing the effectiveness of the troche form in oral candidiasis failed to detect any significant changes between pre-treatment and post-treatment C.B.C., urinalysis and SMA 18. This was true for oral troche regimens of up to 500 mg per day. One-half of the 12 cases in that study had excellent or good results, with clinical clearing or improvement supported by negative cultures. The remainder were clinically improved, with reduced colonies in cultures. In our patients, seven would be classified as excellent, six as good or fair and two had no improvement. Considering the debilitated state of most of the patients in our study, these results are very encouraging and suggest that this drug form has potential for management of oral candidiasis. In a clinical report¹⁶ of one case of oral candidiasis refractory to oral nystatin suspension 500,000 units four times per day, success was achieved with clotrimazole vaginal tablets 100 mg, four times per day for five days. No *C. albicans* could be detected in smears for 48 hours; however, positive cultures were again found after 20 days. Re-treatment for 14 days resulted in success, with negative cultures at six months. Since there are few reports of the use of this drug for oral candidiasis, treatment regimens have been established empirically. It may be necessary to increase the concentration of clotrimazole in each troche or increase the number of tablets taken in cases which show no improvement after a few days of treatment. Due attention

must be given to stay within the safe limits of oral systemic administration.¹⁵

Except for an oral suspension, antifungal preparations have not been formulated specifically for oral use. The availability of a troche for oral topical use should be beneficial to patients with oropharyngeal candidiasis. Most of the patients in our study who had used a form of nystatin for oral candidiasis preferred the clotrimazole troche.

In our study, the high sensitivity and specificity of M-C for the detection of *C. albicans* compared to smears and cultures agreed with other reports of the test strips in gynecologic^{11,17} and dental^{12,13} use. There are, however, other pathogenic yeast organisms such as *Torulopsis glabrata* that do not readily produce a colour change, and therefore the clinician should be aware that a negative reading from the M-C in the face of positive clinical findings must be followed up with bacteriologic cultures and microscopy. The minimum concentration of yeasts to produce brown spots is 5.10×10^2 yeasts per ml.¹³ In the detection of the carrier state, M-C was only slightly less sensitive than using Sabouraud's culture. In some high-risk patients receiving radiotherapy and/or immunosuppressive drugs, it may be useful to screen for *C. albicans* before treatment begins.

The M-C test strip system offers the dentist a sensitive, simple and quick diagnostic aid that can be used in any dental office. The current packaging of M-C is not designed for intraoral use. The flexibility of the strips makes it awkward for direct contact to oral mucosa. There is also a limiting shelf-life, after which reliability of the test-strip decreases. In spite of these drawbacks, the strip could be an additional useful aid for oral diagnosis.

The authors thank Dr. Hatch, Chief of Microbiology, St. Joseph's Hospital, London, Ontario, and Dr. Lannigan, Chief of Microbiology, Victoria Hospital, London, for their assistance.

Addendum

Availability of clotrimazole troche for general use is awaiting approval of the Health Protection Branch, Health and Welfare Canada.

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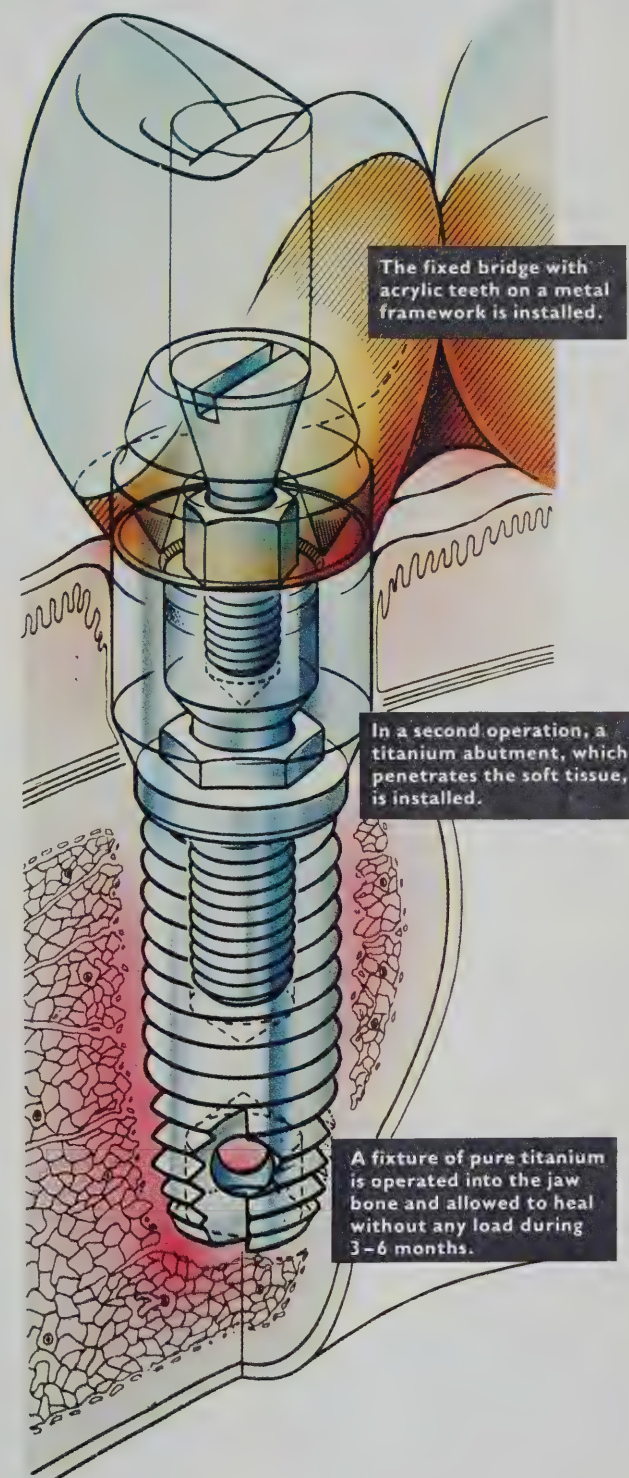
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LES ASPECTS PSYCHOSOMATIQUES DES DOULEURS MYO-FASCIALES

Par Maurice Bourassa, PhD

"It is not sufficiently realised that the mouth is the seat of the most primitive emotions, the first part of the human body to win a place in the consciousness, and as a result is often the outlet for the frustrations of adult life. . . . Our mouth is the seat of primitive desires, satisfactions and instincts which go deeper into our subconscious even than our sexual desires, satisfactions and instincts."

Des études de plus en plus nombreuses menées tant par des psychiatres et des psychologues que par des spécialistes en médecine dentaire tendent à démontrer que les douleurs myo-fasciales (névralgies, douleur de l'articulation temporo-mandibulaire, mauvaise occlusion, etc. . .) sont fortement tributaires de déséquilibres affectifs et émotionnels. Dans cette perspective, de nombreux chercheurs et praticiens travaillent depuis plusieurs années déjà à mettre au point des approches et des techniques prenant sérieusement en compte les dimensions psychosomatiques des symptômes de ce type qui sont soumis à leur attention. Nous tenterons dans cet article de passer en revue les résultats de plusieurs recherches récentes sur le sujet, considérant à la fois les données théoriques, les données expérimentales et les données thérapeutiques mettant en relief l'importance de la relation dentiste/patient dans le traitement des douleurs temporo-mandibulaires.

Description des dimensions psychosomatiques des douleurs myofasciales (MPD)

À ce jour, les études sur les douleurs myofasciales ont principalement porté sur trois aspects principaux, soit: 1) les traits de personnalité; 2) le stress et la tension musculaire; et 3) le degré de tolérance à la douleur.

1. Les traits de personnalité

Moulton² est une des premières à s'être intéressée aux traits de personnalité des patients souffrant de troubles de l'articulation temporo-mandibulaire (ATM). Psy-

chiatre à l'Université Columbia de New-York, elle a publié, en 1955, un article intitulé "Oral and Dental Manifestations of Anxiety"³, dans lequel elle étudiait, après avoir brièvement discuté de la signification émotionnelle de la zone orale, divers comportements selon quatre catégories. Moulton analyse, premièrement, les modèles de comportements manifestes concernant les soins dentaires, les habitudes alimentaires et les attitudes à l'égard du dentiste (transferts); deuxièmement, les symptômes subjectifs, sans lésions physiques observables (hystéries); troisièmement, les déséquilibres du système nerveux (tension artérielle, etc. . .); et quatrièmement, les habitudes orales qui endommagent la structure orale (sucrer, grincer, etc. . .). À ces quatre catégories correspondent, selon Moulton, certaines pathologies telles la périodontie, l'expression subjective d'une douleur (hystérie et hypochondrie), certains troubles des viscères (ulcères, constipation, troubles digestifs, etc. . .) et le déséquilibre de l'articulation temporo-mandibulaire. Moulton a d'abord observé que les déséquilibres de l'A.T.M. sont ressentis chez les femmes, dans une proportion 10 fois supérieure à celui observé chez les hommes. Celles-ci présentent, d'une part, des traits de personnalité apparentés à la dépendance et à l'agressivité, et d'autre part, à la domination, l'obsession et le perfectionnisme. Dans "Emotional Factors in Non-organic Temporo-mandibular Joint Pain", Moulton⁴ montre que l'anxiété et la colère peuvent être à l'origine des tensions des muscles de la mâchoire ou des mauvaises habitudes contractées qui affectent l'ensemble de la structure orale. De même, compte tenu de l'importance de la zone orale comme première zone de satisfaction selon la pensée Freudienne, des douleurs subjectives, ressenties dans cette région du corps particulièrement stratégique en ce qui concerne notre développement psycho-social, peuvent exprimer une volonté inconsciente d'occulter la véritable nature du mal.

Des chercheurs tels Kydd⁵, Lupton⁶, Schwartz, Green et Laskin⁷ ont mené des expériences qui confirment les liens, déve-

loppés par Moulton, entre la dépression et les douleurs myofasciales (MPD). Précisons que Lupton a pu associer les caractéristiques des personnes souffrant de l'ATM et celles souffrant d'obésité, renforçant, de ce fait, les théories de Moulton sur l'oralité.

Shipman, Green et Laskin⁸, Schwartz⁹, utilisant le Minnesota Multiphasic Personality Inventory (MMPI), ont observé chez leurs patients des scores élevés sur les échelles exprimant l'hystérie, l'hypochondrie et la dépression. Gessel et Alderman¹⁰ ont pu également vérifier ces observations. Toutefois, ces divers résultats ne suscitent pas l'unanimité. Ainsi, Solberg, Flint et Brantner¹¹ ont montré que l'incidence de la dépression n'est pas plus élevée chez les patients souffrant de douleurs à l'ATM que chez d'autres patients demandant une aide médicale quelconque. Ils ont aussi montré que des structures de personnalité pathologiques ne s'observent pas plus souvent là qu'au sein d'un quelconque groupe de contrôle. Bref, aucun consensus n'existe et des chercheurs tels Shipman, Greene et Laskin⁸ prétendent que les patients souffrant de douleurs myofasciales ont des étiologies, des symptomatologies et des portraits psychologiques des plus hétérogènes.

2. Stress et tension musculaire

S'il n'y a pas de consensus en ce qui concerne la présence de traits de personnalité communs aux patients souffrant d'un déséquilibre de l'articulation temporo-mandibulaire, il y a plus d'un accord lorsqu'on parle de l'influence du stress et de la tension quant aux symptômes à l'ATM.

Ainsi, comme nous l'avons dit, Moulton³⁻⁴, a montré que le stress et l'anxiété sont les causes les plus fréquentes du développement de problèmes au niveau des muscles de la mastication; Evaskus et Laskin¹² ont procédé, en 1972, à des études biochimiques (composition chimique de l'urine) qui confirment l'hypothèse que les patients avec un syndrome MPD sont sous un plus grand stress émotif que la moyenne des gens. De même, Mercuri et Laskin¹³ ont mesuré, au moyen de l'électromyographie, l'activité des muscles

masseter et le triceps sural chez des sujets atteints de douleurs myofasciales et chez des sujets-contrôles. Ils ont conclu à une hyperactivité des muscles de la mastication chez les patients avec un syndrome MPD.

L'hypothèse la plus généralement admise (Laskin¹⁴, Green et Laskin¹⁵, Lupton^{6,16}, Dachi¹⁷, Solberg et al.¹¹) considère que le principal facteur étiologique de la douleur et de la mauvaise coordination myofasciale est un spasme du muscle de la mastication, spasme qui pourrait être provoqué par une fatigue musculaire à laquelle la tension (stress émotif) pourrait largement contribuer. Moulton note que dans ce processus, nous aboutissons à la mise en place d'un cercle vicieux où le stress produit le spasme et la douleur, laquelle, une fois ressentie, alimente le stress et la tension tout en occultant ou en masquant les composantes émotionnelles du stress originel. Nous verrons plus loin, quand nous aborderons la question du traitement, l'importance de la relation dentiste/patient et l'importance de l'abandon des mauvaises habitudes orales dans l'entreprise d'éclatement de cet apparent cercle vicieux.

3. Réaction à la douleur

Comme il n'existe pas de méthode infailible pour évaluer l'intensité réelle de la douleur ressentie, et l'expérience de la douleur étant éminemment subjective, le professionnel de la santé est confronté, sous ce rapport, à une réalité fluctuante et floue. En effet, certains patients feront un récit exagéré de la douleur, ressentie comme une forme dérivée d'appel à l'aide (Moulton); d'autres passeront stoiquement sous silence la douleur ressentie de manière à préserver le fragile contrôle qu'ils exercent sur leurs émotions et le fragile instrument qu'ils détiennent dans leur vaste entreprise d'occultation, de résistance, et de rationalisation. Ainsi, le professionnel de la santé devra être particulièrement attentif à la manière avec laquelle le patient décrit la douleur qu'il ressent, à l'emphase ou à la résistance qu'il exprime. Il devra également être extrêmement prudent dans son diagnostic et ses interventions, considérant que la description de la douleur ressentie n'est pas un élément justificatif suffisant à telle ou telle intervention, chirurgicale ou autre. À ce niveau, la douleur exprimée servira davantage à compléter le portrait psychophysiologique du patient qu'à élaborer un diagnostic sûr. Elle permettra entre autres au professionnel d'approfondir sa connaissance du patient, par l'exploration de ses expériences antérieures (médicales ou autres), lesquelles peuvent évidemment rendre compte de son état actuel. Qu'il nous suffise ici de répéter que le seuil de tolérance à la douleur est largement déterminé, encore

une fois, par la situation psychologique et émotionnelle du patient et que son évaluation ne constitue qu'une indication additionnelle de l'état global de celui-ci.

II – TRAITEMENTS

*"On the basis of study, it appears that a practitioner should adopt a holistic point of view concerning TMJ Dysfunction. There is not one specific cause for this problem. Instead it should be thought of as a reaction to both intrinsic and external environment. The patients with TMJ should have their oral, physical and emotional status carefully evaluated. To ignore any one of these factors would be to invite failure"*¹⁵.

Dans la perspective d'une reconnaissance, même relative, de la présence de déterminations psychologiques dans l'étiologie et la symptomatologie des diverses douleurs myofasciales, les chercheurs mentionnés auparavant, et d'autres, ont expérimenté divers modes de traitements. Laskin et Greene¹⁸ ont pu vérifier l'efficacité de l'administration d'une drogue placebo prescrite et accompagnée d'un pronostic favorable exprimé par le dentiste. Comparée aux effets d'une drogue tranquillisante, la drogue placebo produit un effet tout aussi positif.

D'autres chercheurs tels Pomp²⁰ et Lupton⁶ ont exploré l'efficacité de l'utilisation d'une quelconque thérapie dans le traitement du syndrome de douleur myofasciale. Pomp conclue à l'efficacité de la thérapie, même s'il considère illogique son utilisation dans un contexte où le patient recherche des soins physiques et non psychiatriques. Lupton, comparant les résultats obtenus lors de traitements conventionnels avec ceux obtenus en y associant soit des sessions de "counseling", soit des sessions d'information, obtient de meilleurs résultats lorsqu'il associe "counseling" ou information à ses traitements conventionnels. Marbach²¹ a également traité des patients uniquement par des séances de psychothérapie avec plus de 60% de succès. Ces résultats démontrent, la nécessité de prendre en considération les facteurs psychologiques et ne pas s'en tenir seulement aux problèmes occlusaux dans le diagnostic et le traitement Rozenzweig²² nomme le syndrome algo-dysfonctionnel de l'articulation mandibulaire (S.A.D.A.M.) cette affection qu'il qualifie de maladie multi-factorielle différenciée pour chaque individu. Pour lui la similarité des symptômes n'apporte pas obligatoirement l'assurance de l'existence d'un étiologie semblable et il est plus important de connaître la part de chacun des facteurs impliqués (occlusion, terrain musculaire, tension psychique, etc. . .) et leur importance relative. Dans cette optique, le meilleur traitement à appli-

quer découle de l'étiologie la plus probable qu'un bon examen permet de cerner. Et, c'est grâce aux habiletés de communication du praticien que l'investigation clinique prendra toute son importance pour déceler les facteurs psychologiques.

Des chercheurs tels Gessel²³, Carlsson, Gale et Ohman²⁴ Dohrmann et Laskin²⁵ ont conclu à l'efficacité du traitement par "bio-feedback". Enfin, Gessel et Alderman¹⁰ ont pu vérifier l'efficacité du traitement par la méthode de relaxation progressive de Jacobson.

Plusieurs chercheurs se sont penchés sur les caractéristiques des patients chez qui un traitement, quel qu'il soit, échoue, en comparaison avec ceux chez qui le même traitement réussit. Schwartz⁹ conclut que les patients qui ne répondent pas positivement au traitement sont plus agités, déprimés et ont davantage de préoccupations somatiques. Pomp²⁰ observe que des traitements administrés à des patients qui nient avoir des problèmes affectifs échouent dans une large proportion. Schwartz, Greene et Laskin⁷ ont observé que chez les patients où des échecs sont enregistrés, le degré de détresse émotive, d'agitation et de colère est plus élevé. Gessel¹ et Alderman¹⁰ ont prétendu que la présence ou non de traits dépressifs chez un patient influence l'issue du traitement. Lupton⁶, enfin, a pu observer que les patients qui nient toute faiblesse psychologique opposent de fortes résistances aux traitements visant les dimensions psychologiques.

Toutefois, Millstein-Prentky et Olson²⁶ utilisant l'inventaire multiphasique de la personnalité du Minnesota (MMPI) échouent à constituer une échelle permettant de prédire le résultat des traitements administrés. Ils remarquent toutefois que ceux chez qui le traitement échoue ont un score plus élevé au MMPI que ceux chez qui le traitement réussit. Ils concluent tout de même à une absence de différences consistantes dans les traits de personnalité des patients MPD qui s'améliorent comparés à ceux qui ne s'améliorent pas. Shipman, Green et Laskin⁸, étudient les liens entre traitements au placebo et personnalité et concluent qu'il n'y a pas de lien significatif quant à l'issue du traitement en rapport avec cette variable. Toutefois, en introduisant la variable suggestion, ils observent que les patients "psycho-névrotiques" répondent plus positivement à l'administration d'un traitement placebo accompagné de fortes suggestions.

Il n'y a donc pas, là non plus, de consensus clair, quoique l'incidence des traits de personnalité du patient sur l'issue du traitement semble reconnue par plusieurs, à des degrés variables. Un consensus semble toutefois se dégager autour de l'importance

accordée à la relation dentiste/patient (Greene et Laskin¹⁵) et de l'importance de divulguer certaines informations sur la nature du mal ressenti. Moulton³, à ce sujet, considère que l'information doit être dosée en fonction de l'intuition qu'a le dentiste de ce que son patient en fera. Elle insiste toutefois sur le fait qu'il convient d'éviter le secret, le mystère et le silence, sources de dépendance et d'infantilisation. D'autres variables, telles la durée de la maladie (Moulton³, Carlsson, Gale, Ohman²⁴), les attentes du patient (Moulton³), la personnalité du praticien (Laskin et Greene¹⁸) influencent également l'issue du traitement.

Terminons ce bref survol des dimensions psychosomatiques dans l'éthologie, la symptomatologie et le traitement des douleurs myofasciales en insistant sur deux points: l'importance de certaines mauvaises habitudes orales sur l'éthologie et la symptomatologie ainsi que l'importance de la relation du dentiste avec le patient.

Moulton³ et Walsh²⁷ ont souvent insisté sur l'incidence des mauvaises habitudes orales dans l'étiologie des douleurs myofasciales. Ils ont fait valoir que diverses habitudes nerveuses et tics (tels les grincements nocturnes) sont à l'origine de maux myofasciaux et dentaires, provoquant même des réelles lésions corporelles (ulcères, saignement des gencives, etc. . .)

*"... thumb-sucking, nail-biting, opening 'bobypins' with teeth, biting cotton threads, tongue-thrusting, perversions of swallowing, pipe-sucking and cheek-biting are all sample examples of habits which may cause oral symptoms"*²⁷.

La question, à ce point, ne serait-elle pas de savoir par quels moyens enrayer ces mauvaises habitudes dont on peut penser qu'elles originent de certains déséquilibres émotionnels (anxiété, colère, insécurité) sans toutefois que l'effort thérapeutique doive nécessairement viser à la dissolution des déterminations originelles ou primitives. On peut ainsi envisager l'utilisation de certaines méthodes comportementales axées sur la réalisation graduée de certaines tâches à l'issue de laquelle la mauvaise habitude aura été déracinée, à l'utilisation de certaines méthodes fonctionnelles de désensibilisation systématique. Ici l'utilisation de l'hypnose et de certaines approches axées sur la suggestion pourrait être également envisagée.

Il reste que dans la discussion de toutes ces questions concernant les dimensions psychosomatiques des douleurs myofasciales, la relation dentiste/patient ressort clairement comme une variable lourde déterminante de la conduite et de l'issue du traitement. Moulton³, en particulier, consacre de longs paragraphes à cette question,

faisant ressortir la nécessité de mettre en place d'un climat de coopération entre le praticien et son patient. Elle insiste également sur le fait que le dentiste doit adopter une attitude d'attention dénuée de jugement, considérant le patient comme une personne globale. Le praticien, en priorité, tentera d'être particulièrement attentif au degré d'anxiété exprimée par le patient, à sa manière d'exprimer sa douleur. Il tentera également, par le biais d'une interview, de reconstruire l'histoire de son patient, d'établir certaines corrélations entre les symptômes physiques et les activités psychosociales du patient, incluant ses expériences thérapeutiques ou médicales antérieures. Le praticien tentera d'évaluer la motivation et les buts du patient, individualisant la vitesse du traitement en fonction de la personnalité de celui-ci. Moulton³ prévient fréquemment du fait qu'il est préférable, en présence de patients tendus et anxieux, de commencer par des interventions sans incidences ou conséquences physiques immédiates, évitant de fournir au patient l'occasion d'un occlusion additionnelle ou d'une fuite inédite. Le praticien, en outre, devra fournir au patient de fréquents renforcements, alimentant ainsi la confiance et la motivation tout en justifiant le rythme ralenti des interventions menées.

"Our best therapeutic results", notes Ruth Moulton⁴, "were obtained with patients who... were handled conservatively by the first doctor who saw them and were given honest and useful information about the psychology and physiology of their condition." Plus loin, elle ajoute, "the most recalcitrant cases were the patients who had found doctors who promised them complete cures, practitioners who seemed to be sure masters of the situation and who assured them that there was a mechanical way to lift the burden of pain".

Comme on peut le voir, l'attitude du praticien du professionnel de la santé peut s'apparenter ici à celle du psychothérapeute: attention, écoute active, empathie, confrontation, renforcement, patience, simplicité, fermeté, confiance et motivation, sans oublier certaines mises en scène propices à la communication et à l'interaction (environnement physique, regard, ton de la voix) et certaines techniques spécifiques (silence, reflet, résumé, paragraphe, questions, exercices individualisés et gradués) favorisant l'exploration, la compréhension et l'action, considérées comme les trois étapes d'une relation d'aide efficace²⁸.

Le diagnostic et le traitement des diverses douleurs myofasciales impliquent donc, et de plus en plus, à la lumière des recherches et des pratiques récentes, l'élaboration d'une approche holistique devant prendre

en compte la personnalité du patient, son équilibre émotif et affectif ainsi que des événements déterminants de sa vie. Il semble de plus en plus acquis que l'établissement de liens étroits, dans le cas particulier des syndromes MPD, entre facteurs psychologiques et manifestations physiques, contribuent à la compréhension et au traitement de ces diverses maladies, favorisent l'enrichissement de notre questionnement et de nos connaissances dans le vaste domaine des problèmes psychosomatiques.

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Announcements

JUNE/JUIN 1986

June 7-13: Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada is holding the ACFD/CADR XIV Biennial Conference on Dental Education and Research. The Nottawasaga Inn, Alliston, Ontario (North of Toronto.) Contact: Mrs. Stella M. Taylor, Administrative Assistant, The Association of Canadian Faculties of Dentistry, 5059 Dentistry Pharmacy Building, University of Alberta, Edmonton, Alberta, T6G 2N8, 403-463-8371.

June 13-14: L.D. Pankey Association presents Dr. John Nasedkin in a seminar entitled "The Key to Successful Restorative Dentistry: Practical Aspects of Comprehensive Care and the Occlusal Cycle." London, England. Contact: Conference Organizer, L.D. Pankey Association, The Old Bothy, Norwood Hill, Nr. Horley, Surrey, England RH6 OHP.

June 20-23: Canadian Academy of Periodontology Annual Scientific Meeting and National Periodontal Teaching Conference. Sheraton Hotel, Halifax Nova Scotia. Contact: Dr. Ed Hannigan, 590-5991 Spring Garden Road, Halifax, N.S. B3H 1Y6.

June 21-22: International Association for Orthodontics, Western Canada Section "Pre Orthodontic Orthopedics" by Dr. Henry Petit, Hotel Meridien, Vancouver, B.C. Contact: Dr. Timothy Tam 301-745 West Broadway, Vancouver, B.C. V5Z 1J6. (604) 872-0444.

June 22-23: The International Conference on Ventures in Dental Materials, Kurhause Hotel, Scheveningen-The Hague, Holland. For further information contact: Sybil Greener, Academy of Dental Materials, Northwestern University Dental School, 311 East Chicago Ave., Room 10-019, Chicago, Ill. 60611, 312-943-8410.

June 26-29, 1986: 10th International Symposium on Dental Hygiene. Oslo, Norway. Scandinavia Hotel. Contact: The Scientific Committee, 10th International Symposium on Dental Hygiene, P.O. Box 438, 1301 Sandvika, Norway. For more information contact either Inger-Lise Bryhni or Elisabeth Olsen Kolbjornsen at the above address.

June 27-28: Joint meeting, Association of Prosthodontists of Canada and Canadian Academy of Prosthodontics in conjunction with Expo '86, Vancouver, B.C. Canada. Contact: Dr. C. Osadetz, 1046 Dentistry/Pharmacy Building, University of Alberta, Edmonton, Alta. T6G 2N8. 403-432-3631.

June 30-July 4: The 8th Congress of the International Association of Dentistry for the Handicapped, Bergen, Norway. Contact: Dr. Marit Moland, Helsm Vei 19, 5032 Minde, Norway.

June 30-July 7: Yukon Dental Association's 6th Annual Summer Convention. June 28-29 Continuing Education Seminar in Whitehorse, Yukon. June 30-July 7, Midnight Sun Canoe Trip. Contact: Dr. Chuck Hazen, 5110-5th Ave. Whitehorse, Yukon. Y1A 1L4, 403-668-6707.

JULY/JUILLET 1986

July 1, 1986: Applications are being accepted for the **Postdoctoral program, Dental Diagnostic Science at the University of Texas**, Health Science Center at San Antonio for the class beginning **July 1, 1986.** Address inquiries to: Office of the Associate Dean for Advanced Education, The Dental School, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Dr., San Antonio TX. 78284.

July 3-6: 1986 Annual and Scientific Meeting of the British Dental Association, Manchester Royal Northern College of Music, Manchester, England. Contact: Helen MacKay, British Dental Association, 64 Wimpole St. London, W1M 8AL, telephone: 01 935 0875.

July 6-11, 1986: The World Dental Conference, Jerusalem, Israel. Deadline for submission of Abstracts: **March 15, 1986.** Contact: Rifka Boruchowicz or Dalia Raif, convention co-ordinators, Diamond International Tours Inc, 1183 Finch Avenue, Suite 203, Downsview, Ontario. M3J 2G2, 416-663-9100.

July 6-11: 6th International Congress of Immunology, Toronto, Ontario. Contact: Dr. Bernhard Cinander, Chairman, International Congress of Immunology 416-978-6120, or Dr. Philip Halloran, Press Liaison Officer, Congress Organizing Committee, 416-586-5185.

July 11-16: The Academy of General Dentistry 34th Annual Meeting, Wyndham Franklin Plaza Hotel, Philadelphia, PA. Contact: Meeting Planning Dept., Academy of General Dentistry, Suite 1200, 211E Chicago Ave, Chicago, Ill. 60611, or call 312-440-4300.

July 30-August 2: Alberta Dental Association Convention, Grand Centre, Cold Lake Area. Contact: Dr. B.G. Kleeberger, Chairman, P.O. Box 674, Elk Point, Alberta T0A 1A0, 403-724-4086.

AUGUST/AOÛT 1986

August 3-9: Puppetteers of America 47th Annual Festival, UBC, Vancouver, British Columbia. Contact: Luman Coad, 1384 Hope Road, North Vancouver, B.C. V7P 1W7.

August 4-5: National conference on the woman dentist, ADA headquarters, Chicago, Illinois. Contact: The Bureau of Dental Society Services, ADA, 211 East Chicago Ave., Chicago, Ill., 60611, 312-440-2600.

August 15: Expo '86 Dental Seminar, "The Planning is Strategic" by Dr. Burton Press. Sponsored by the College of Dental Surgeons of British Columbia. Contact: College of Dental Surgeons of British Columbia, 1125 West 8th Ave., Vancouver, B.C. V6H 3N4.

August 17-19: Canadian Academy of Restorative Dentistry annual meeting, Sheraton Hotel, Halifax, Nova Scotia. Top scientific and social program. Contact: Dr. John Merritt, Registration Secretary, 1969 Connaught Ave., Halifax, N.S. B3H 4E2.

August 18-21: Canadian Academy of Pediatric Dentistry presents the 7th Canadian Congress on Dentistry for Children, University of British Columbia, Vancouver, B.C. Contact: Dr. R.E. Patton, Suite 801, 925 W. Georgia St., Vancouver, B.C. V6C 1R5 (604) 685-5620.

August 19-20: Canadian Academy of Pediatric Dentistry annual meeting, University of British Columbia, Gage Towers, Vancouver, British Columbia. Contact and register with: Dr. W.S. Cheung, Suite 103, 3020 Lincoln Avenue, Coquitlam, B.C. V3B 6B4. (604) 484-3213.

August 22, 23, and 24: Dr. Waldemar Brehn, Advanced Mechanics. Sponsored by the International Dental Institute (I.D.I.) Inc. Course location Montreal, call Diane Baillargeon at (514) 463-1281 for details.

August 23: Academy of Dentistry International, Convocation and Annual Meeting. Sheraton Centre, Halifax, N.S. Contact: Dr. Donald Williams, 160 Highfield St., Moncton, N.B. E1C 5M6.

August 25-29, 1986: Biennial Conference of the New Zealand Dental Association, Wellington, New Zealand. Contact: Conference Secretary, New Zealand Dental Association, P.O. Box 3709, Wellington, New Zealand.

August 24-27, 1986: Canadian Dental Association Annual Convention. Halifax Nova Scotia. Contact: CDA, 1815 Alta Vista Dr. Ottawa, Ont. K1G 3Y6.

SEPTEMBER/ SEPTEMBRE

September 15-19: Annual Conference of the Canadian Society of Forensic Science, Sheraton Brock Hotel, Niagara Falls, Ontario. Contact: Executive Secretary, Canadian Society of Forensic Science, 2660 Southvale Crescent, Suite 215, Ottawa, Ontario, K1B 4W5, 613-731-2096.

September 15-December 11: UCLA Extension Dental Refresher Program, UCLA Extension Downtown Centre, Los Angeles, California. Program designed to improve knowledge of non-US trained dentists. Contact: Continuing Education in Health Sciences, UCLA Extension, 10995 Le Conte Avenue, Room 614, Los Angeles, 90024, 213-825-9187.

September 20-21: Canadian Craniofacial Society symposium and annual general meeting. Toronto Hospital for Sick Children, Toronto, Ontario. Contact: Dr. Gordon Wilkes, 1004-10045 - 111 St. Edmonton, Alta, T5K 2M5.



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September 20-25: Canadian Paediatric Society 63rd annual meeting, Hilton Harbour Castle, Toronto, Ontario. Contact: Canadian Paediatric Society Secretariat, Children's Hospital of Eastern Ontario, 401 Smyth Rd. Ottawa, Ont. K1H 8L1, 613-737-2728.

September 21: Canadian Hypertension Society is sponsoring a forum on "Community Approaches to High Blood Pressure Prevention and Control", 1-5 pm, Toronto, Ontario. Contact: Community Approaches to High Blood Pressure Prevention and Control, c/o Dr. Karen Mann, Hypertension Unit, Camp Hill Hospital, 1763 Robie Street, Halifax, N.S. B3H 3G2.

September 24-27: Annual Meeting of the American Academy of Periodontology, Cleveland Convention Centre, Cleveland, Ohio. Featured speaker is Dr. Per-Ingvar Branemark. Contact: Jean Pierson, The American Academy of Periodontology, Room 924, 211 E. Chicago Ave., Chicago, Ill. 60611-2690, 312-787-5518.

September 24-29: Canadian Academy of Endodontics Annual Meeting, Four

Seasons Hotel, Vancouver, B.C. Contact: Dr. S.K. Sinanan, 925 West Georgia St. Suite 1015, Vancouver, B.C. V6C 1R5.

September 26-28: 3rd Samuel Seltzer Endodontic Symposium "Endodontic Flare-ups" Hershey Hotel, Broad and Locust Streets, Philadelphia, Pennsylvania. Contact: Dept. of Endodontology, Temple University School of Dentistry, 3223 North Broad St., Philadelphia, PA, 19140, 215-221-2810.

OCTOBER/ OCTOBRE

October 18-23: American Dental Association, 127th Annual Session, Miami Beach Convention Centre and Fontainebleau Hilton Hotel. Contact: American Dental Association, 211 E. Chicago Ave., Chicago, Ill. 60611, 312-440-2726.

October 31-November 1: Professional Development Committee of the Ontario Dental Association and the Ontario Society of Endodontists present the Symposium on Clinical Endodontics. Featured

speakers include Drs. H. Trowbridge, D. Aren, R. Burns, S. Cohen, J. Namias, W. Cunningham, J. Schoeffel, A. Machanowicz, M. Fagin and R. Greenfield. Contact: Professional Development, The Ontario Dental Association, 234 St. George St., Toronto, Ont. M5R 2P1 416-922-3900.

NOVEMBER/ NOVEMBRE

November 17-21: Second International Congress on Gerodontology, Stamford-Westin Plaza Hotel, Raffles City, Singapore. Hosted by the Singapore Dental Association. Contact: Organizing Secretary, 2nd International Congress of Gerodontology, Singapore Dental Association, Medical Alumni, 4A College Rd. Singapore 0316, Republic of Singapore.

November 25-28: 6th Annual Sports Medicine Seminar "Sports Medicine for All Practitioners", Intercontinental Hotel, Maui, Hawaii. Contact: Dr. Stuart Zeman, Course Chairman, 2999 Regent St., Suite 203, Berkeley, California, 94705, 415-540-8686.

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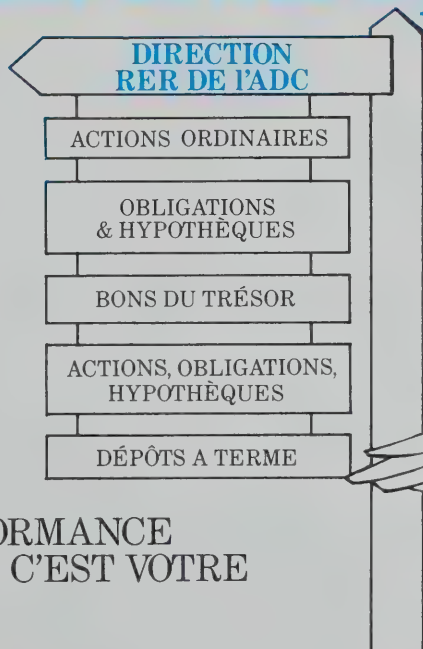
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_____ CDA 3	Facial Pain and its Control, New Insights Into Old Problems		October 1		October 2
_____ CDA 4A	DR. BARRY SESSLE	_____ CDA 9A	Cosmetic Dentistry Rainbow –	_____ CDA 13A	Geriatric Dentistry
_____ CDA 4B	Diagnosis, Prevention and Management of TMJ Dysfunction in Orthodontics	_____ CDA 9B	Boon or Bust?	_____ CDA 13B	DR. A.S.T. FRANKS
_____ CDA 4A	DR. E.H. WILLIAMSON	_____ CDA 10A	DR. R.E. GOLDSTEIN	_____ CDA 14	The Treatment of Oral and Related Cancers
_____ CDA 5A	The Changing Face of Paediatric Dentistry	_____ CDA 10B	Periodontal Therapy in the 1990's		DR. L.J. EAPEN
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_____ CDA 6	MANAGEMENT OF THE PATIENT WITH CHRONIC FACIAL PAIN	_____ CDA 11A	INTERNAL MEDICINE		October 2
_____ CDA 6	Psychiatric Aspects of Atypical Facial Pain	_____ CDA 11B	The Etiology and Current Approach to Cardiac Disease	_____ CDA 19	Prosthetic Dental Care for Cancer Patients
_____ CDA 6	DR. RONALD REMICK		DR. W.L. WILLIAMS		DR. P. STEVENSON-MOORE
			Update on Blood Dyscrasias, Diabetes Mellitus and Rheumatoid Arthritis		Provincial Health Plans and Financial Support for Dental Care of Cancer Patients
			DR. A.L. WEINBERG		DR. J.H.P. MAIN
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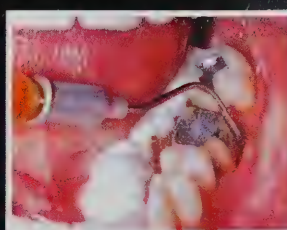
1. Ultrapak™ cord soaked in Astringedent® hemostatic may be packed either before preparation or after. Use a size which appears too large as Ultrapak™ cord compresses upon packing. It is designed to be presoaked prior to placement.



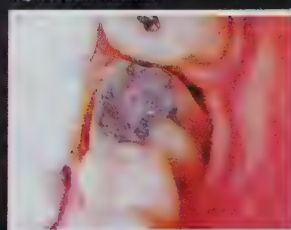
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3. Cord is removed. Bleeding is minimal due to cord protecting tissue during preparation. With a gingivage technique, one packs after obtaining hemostasis with the Dento-Infusor® (Step 4). This may also be done with this preparation packing technique if additional retraction is desired.



4. After removing cord, the Dento-Infusor® applicator loaded with Astringedent® hemostatic, is rubbed against the bleeding tissue as plunger is depressed. Capillaries are sealed off as coagulum forms right within their orifices.



5. Preparation should be left moist until all bleeding has stopped. If left moist, the extraneous coagulum will all flush out with a firm air-water spray. One may then be assured of obtaining an accurate impression! (With this technique, an air-water spray will not reinstitute bleeding.)

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